Summary Proceedings of the

38th Meeting to 43rd Meeting } Indian Central Cotton Committee 1938-1941

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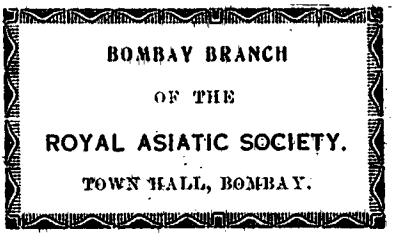

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Summary Proceedings

OF THE

Thirty-Eighth Meeting

OF THE

Indian Central Cotton Committee,

Bombay,

HELD ON THE

17th, 18th and 19th November, 1938.

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INDIAN CENTRAL COTTON COMMITTEE.

38TH MEETING—17TH, 18TH AND 19TH NOVEMBER 1938.

(Held at the Punjab Agricultural College, Lyallpur.)

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Present.

Sir Bryce Burt, C.I.E., M.B.E., I.A.S. (*President*),
Sir Chunilal V. Mehta, K.C.S.I. (*Vice-President*),
Sir Purshotamdas Thakurdas, C.I.E., M.B.E.,
Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,
Lala Shri Ram,
Sir William Roberts, C.I.E.,
Rao Bahadur Sir Madhaorao Deshpande, K.B.E.,
Rai Bahadur S. V. Kanungo,
Dr. W. Burns, I.A.S.,
Mr. H. R. Stewart, I.A.S.,
Mr. P. B. Richards, I.A.S.,
Mr. P. H. Rama Reddi, I.A.S.,
Mr. J. C. McDougall, I.A.S.,
Mr. B. S. Patel, I.A.S.,
Mr. R. G. Allan, C.I.E.,
Mr. Chandulal P. Parikh,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. J. Tinker,
Mr. Roger Thomas,
Mr. T. R. Low, I.A.S.,
Mr. A. P. Darlow,
Seth Isserdas Varindmal, M.L.A.,
Mr. Chellaram Shewaram,
Mr. Balak Ram,
Rao Saheb K. I. Thadani,
Mr. Nizam-ud Din Hyder,
Dr. V. K. Badami,
Mr. Jamshed Nusserwanji,
Ch. Mohammad Yasin Khan,

Mr. V. Ramanatha Ayyar,
Mr. H. B. Rajdev,
Mr. H. Sitarama Reddi,
Mr. G. P. Chakravarty,
Mr. Y. R. Joshi,
Mr. P. V. Deshmukh,
Mr. D. K. Kane,
Mr. M. B. Patel,
Dr. B. L. Sethi,
The Secretary (Mr. D. N. Mahta).

By Invitation.

The Hon'ble Sir Chhotu Ram, Minister for Development, Punjab Government,
Mr. M. L. Darling, I.C.S., Financial Commissioner, Development, Lahore,
Sardar Ujjal Singh, M.L.A., Lahore,
Sardar Sampuran Singh, M.L.A., Lyallpur,
Sardar Bahadur Datar Singh, Proprietor, Montgomery Dairy Farm, Montgomery,
Major G. A. V. Prideaux, In charge Military Farms, Okara,
Lt.-Col. J. Bruce, O.B.E., Brucepur, Lyallpur,
Mr. J. C. L. Bruce, Agent, Brucepur Stud Farm, Lyallpur,
Colonel Sir Edward Cole, Coleyana, District Montgomery,
Sardar Kartar Singh, Lyallpur,
Khan Bahadur Sardar Habib Ullah, M.L.A., Lahore,
Mian Nurullah, M.L.A., Lyallpur,
Lala Ram Rakha, Vice-President, Okara *Zamindars* Co-operative Society, Ltd., Okara,
Major L. H. G. Conville, Convillepur Farm, Montgomery,
Khan Bahadur Maulvi Fateh-ud Din, I.A.S., Fodder Adviser to Government, Punjab,
Mr. E. F. G. Gilmore, Director, Industrial Research Bureau, New Delhi,
Mr. R. G. Saraiya, J. P., C/o Messrs. Narandas Rajaram & Co., Bombay,
Mr. Jamnadas Ramdas, C/o Messrs. Dosa & Co., 397, Marwari Bazar, Bombay,
Dr. Nazir Ahmad, O.B.E. (Director, Technological Laboratory, Matunga, Bombay),
Dr. P. E. Lander, I.A.S., Principal, Punjab Agricultural College, Lyallpur,
Mr. C. J. Bocarro (Assistant Secretary),
Malik Sultan Ali Noon, I.A.S., Deputy Director of Agriculture, Montgomery,

Sardar Saheb Labh Singh, Deputy Director of Agriculture, Lyallpur,

Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,

Rai Saheb Jai Chand Luthra, I.A.S., Professor of Botany, Punjab Agricultural College, Lyallpur,

Dr. Khan A. Rahman, P. A. S., Entomologist to Government, Punjab,

Mr. Mohammad Afzal, Cotton Research Botanist, Lyallpur,

Professor R. H. Dastur, Plant Physiologist, Agricultural College, Lyallpur,

Mr. T. B. Dalal, Secretary, Karachi Cotton Association, Ltd., Karachi,

Letters or telegrams were received from the following members regretting their inability to attend the meeting :—

Dr. John Matthai, C.I.E.,
Dr. T. E. Gregory,
Mr. S. D. Saklatvala, M.L.A.,
Mr. Kasturbhai Lalbhai,
Mr. M. S. Durutti,
Mr. J. L. Hurschler,
Mr. J. Nuttall,
Sardar Saheb Gurbachan Singh, M.L.A.,
Mr. M. P. Kolhe, M.L.A.,
Rao Bahadur S. S. Salimath,
Mr. K. Ramiah, M.B.E.,
Mr. V. C. Palaniswami Gounder, and
Sardar D. K. Jadhav.

President's Speech.

GENTLEMEN,

It gives me great pleasure to welcome you to the 38th meeting of the Indian Central Cotton Committee. This is the third meeting of the Committee to be held outside Bombay and, as the first and second were held at Indore and Karachi respectively, it is the first to be held at a provincial centre of agricultural research. We are all glad of this opportunity of seeing for ourselves the work in progress and some of the results achieved from the research schemes which the Committee is financing in the Punjab.

We extend a warm welcome to those members of the Punjab Legislative Assembly, and of the Provincial Cotton Committee and to the cotton growers who have accepted our invitation to attend our meetings. The exchange of views which will take place should be of mutual benefit. No less valuable are the facilities which we have been given of seeing the research sections of what is now the largest agricultural department in India and one of the best known of the Indian Agricultural Colleges. You will wish me to thank the Punjab Government on your behalf for their invitation to meet at Lyallpur. There are several other acknowledgments which we wish to make but those will come more appropriately on Saturday when we shall have the privilege of welcoming to our meeting the Hon'ble Minister for Development, Sir Chhotu Ram.

There have been a few changes in the personnel of the Committee since we last met. Mr. J. L. Hurschler has taken the place of Mr. J. Vonesch, who is out of India on short leave, and Mr. Jamshed Nusserwanjee has succeeded Mr. Syed Miran Mohammad Shah as one of the respresentatives of the co-operative movement. To both these gentlemen we accord a hearty welcome.

Our agenda, though not so long as usual, contains several important subjects on which you will be called upon to give your considered views. The licensing of ginning and pressing factories in the Punjab and the application of the Cotton Transport Act to the Province are subjects not unfamiliar to members of the Committee. It will be remembered that when these subjects last came up for discussion we postponed consideration of them until this meeting in order that the various aspects of the questions might be examined in the presence of the Hon'ble Minister for Development, Punjab. These subjects will accordingly be taken up on the 19th instant when the Hon'ble Minister, in spite of the many pressing calls on his time, has very kindly consented to be present amongst us.

A new subject which figures on the agenda is the possibility of adjusting the production of cotton in India more nearly to demand from both the quantitative and qualitative aspect. The fall in world cotton prices, coupled with the possibility of a continuation of the shrinkage in the export demand for short staple cotton, has caused all of us no little anxiety. The subject bristles with difficulties, and I do not wish to anticipate the discussion but you will notice that, as a result of the Local Sub-Committee's examination of the question, a recommendation has been made to Agricultural Departments to discourage the growing of cotton on those marginal lands where the yields are poor and cotton growing relatively less profitable. It is realised that this is primarily a provincial matter and that the choice of alternative crops in particular is a problem calling for local study but it was felt that all those connected with cotton growing in India would look to the Central Cotton Committee for a lead in these matters. Other aspects of the problem are better crop rotations, the raising of the efficiency of cotton production, and a better balanced production of the various types with special emphasis on those which are most regularly in demand and command the widest markets.

The Agricultural Research Sub-Committee and the Special Sub-Committee on Cotton Root Rot Schemes, which met during the past few days have submitted their reports which are now before you. I am sure you would like me to thank them for the work they have done which has both simplified and minimised our labours. The Agricultural Research Sub-Committee has dealt with the various subjects falling within its purview in its usual thorough manner. Several new agricultural research and seed distribution and extension schemes are up for consideration and it will immediately be apparent, that, in spite of all that has been done, and is being done, to solve the many cotton problems of the country, much work still lies ahead. Some idea of the scope of our work may be formed from the fact that during the seventeen years of its existence the Indian Central Cotton Committee has financed 109 schemes of cotton improvement. Of this number 61 are agricultural research schemes, 26 seed multiplication, distribution and extension schemes and 22 schemes concerning cotton marketing and statistics. Many of these schemes have yielded valuable results which are gradually being put into practice. To

give a single example, the total area under improved varieties of cotton in the Punjab is now 6,50,000 acres or 22 per cent. of the whole. Most of the credit for this must be given to the Punjab Agricultural Department and I would particularly like to mention three officers, members of the Indian Agricultural Service who have served in the Punjab, Mr. S. Milligan our first President, Mr. Milne the first Economic Botanist to the Punjab and subsequently one of our original members, and Sir William Roberts, still an active member of our Committee. But we can claim our share of the credit. The new type of American Punjab 289F/43 now covers about one lakh of acres—this was produced by Mr. Trought our Cotton Research Botanist. Those of you who have seen Mr. Mohamad Afzal's new strains will agree with me that we are within sight of further advances. If I may mention one current scheme, you will see from the report of the Research Sub-Committee that the campaign against those serious pests the pink and spotted bollworms, has achieved a large measure of success. The research work financed by the Committee has led to practical results and we now have a method which, if vigorously applied, will greatly diminish the ravages of a group of pests which reduce both the yield and quality of Punjab cottons. The research work was directed and the subsequent 'clean-up' operations planned by Khan Bahadur Mian Afzal Husain, then Government Entomologist. We should like to take this opportunity of congratulating him on his recent appointment as Vice-Chancellor of the Punjab University—a well deserved compliment to himself, his service and his department.

Here I may mention the latest development in the application of the results of the United Provinces Pink Bollworm scheme. Those experiments, succeeded as they were by practical control measures over an area of some 500 square miles, demonstrated that, for the United Provinces, control could be effected by properly organised heat treatment of our cotton seed after ginning. On our recommendation the United Provinces Government undertook legislation and the United Provinces Cotton Pest Control Act was passed. By a recent Gazette notification the Act has been made applicable from October 1938 to an area of some 3,500 square miles, embracing the Aligarh District and the adjoining parts of the Bulandshahr, Muttra and Etah districts which have an annual cotton area of some one and a half lakhs of acres. Allowing for the prescribed period of notice to gin-owners and others affected, control measures are expected to be obligatory from the cotton season of 1939. This is the first instalment as other districts also desire the Act to be applied. This is a matter which gives us considerable satisfaction, for it has been amply demonstrated that pink bollworm control means the avoidance of damage ranging from 25% to 40% at a moderate estimate—and more in individual years.

The Committee's policy of aiding and co-operating with, every agricultural department concerned with cotton growing has amply been justified. It has been our constant aim to supplement but never supplant local efforts. That our assistance has been valued and our methods appreciated is amply demonstrated by the references to the Committee's grants in the annual reports of provincial agricultural departments—and in various Government resolutions. There is no room for doubt that, as a result of the activities of the Committee, a considerable advance in the science and practice of cotton growing has been made with consequent gain both to the growers of cotton and to the Indian Textile industry. On the Technological side too, progress has been maintained, and the

Committee's Technological Laboratory at Matunga is continuing to do work of importance both to cotton growers and the cotton trade in general. I will not anticipate the discussion on the Technological Sub-Committee's report, but should just like to say that this unique laboratory, which is an essential part of our organisation, has done much to make cotton breeding more precise and to ensure that only the most suitable new types are introduced. By its schemes of research scholarships, the Committee has built up a corps of qualified research workers on cotton which should prove a valuable asset in the development of agriculture in this country. The Committee has reason to be proud of its achievements and can look forward with optimism to the future. In one respect our research work now calls for some degree of re-orientation. There is scope for a greater study of the soil, cultural and manurial factors which determine the efficiency of cotton growing and here we have done much less work than on varietal improvement and disease and pest control. Though the problems are more local in character, there is great scope for more co-ordinated effort.

The reports of the Standing Finance and Local Sub-Committees indicate how well the day-to-day administration of the Committee has been looked after by these two Sub-Committees and once more I wish to acknowledge our indebtedness to the members of these Sub-Committees. A new procedure was decided upon at our last meeting and all new and continuation schemes, after provisional approval by the Committee, are now subjected to detailed examination by the Standing Finance Sub-Committee. You will be glad to know that the new arrangement though it has thrown a considerable amount of work on the Sub-Committee, has worked very well, and possesses the dual advantage of providing a more efficient control over expenditure and enabling our trade members to become more fully acquainted with the detailed working of our research and seed distribution schemes.

SUBJECT 2—*Confirmation of Minutes.*

The Minutes of the previous meeting held on the 12th and 13th July 1938 were confirmed.

SUBJECT 3.—*Appointment of Vice-President and Sub-Committees.*

Sir Chunilal V. Mehta was re-elected Vice-President of the Indian Central Cotton Committee for the year 1939-40.

The following members were appointed to form the Standing Finance Sub-Committee for the financial year 1939-40 :—

The Vice-President (*Chairman*),
The President (*ex-officio*),
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,
Mr. W. J. Jenkins,
Rao Bahadur Sir Madhaorao Deshpande,
Mr. M. S. Durutti, and
Mr. J. L. Hurschler.

The following members were appointed to form the Cotton Ginning and Pressing Factories Sub-Committee :—

The Vice-President, Sir Purshotamdas Thakurdas, Mr. S. D. Saklatvala, Mr. Kasturbhai Lalbhai, Mr. M. S. Durutti, Mr. J. L. Hurschler, Sir William Roberts, Mr. W. J. Jenkins, Mr. J. Tinker, Mr. P. V. Deshmukh, Mr. J. Nuttall, Mr. Chellaram Shewaram and the Co-operative Banking Representative (*ex-officio*).

The Local Sub-Committee was constituted as follows :—

The President, The Vice-President, Sir Purshotamdas Thakurdas, Mr. S. D. Saklatvala, Mr. Kasturbhai Lalbhai, Rao Bahadur Sir Madhaorao Deshpande, Mr. J. L. Hurschler, Mr. M. S. Durutti, Mr. Chandulal P. Parikh, Mr. W. J. Jenkins, Mr. A. P. Darlow and Sardar Rao Bahadur Bhimbhai R. Naik.

The following members were appointed to form the Agricultural Research Sub-Committee :—

I. The President (*ex-officio*),

II. The Vice-President (*ex-officio*),

III. The Co-operative Banking Representative (*ex-officio*),

IV. *Cotton Growers' Representatives* :—Sir William Roberts, Rao Bahadur Sir Madhaorao Deshpande, Sardar Rao Bahadur Bhimbhai Ranchodji Naik and Mr. Roger Thomas.

V. *Cotton Trade Representatives* :—Sir Purshotamdas Thakurdas, Mr. Kasturbhai Lalbhai, Mr. Chandulal P. Parikh and Mr. D. K. Kane.

VI. *Agricultural Officers* :—The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*), Mr. H. R. Stewart, Mr. W. J. Jenkins, Mr. P. B. Richards, Mr. P. H. Rama Reddi, Mr. J. C. McDougall, Mr. R. G. Allan, The Director, Institute of Plant Industry, Indore (*ex-officio*), Rao Saheb K. I. Thadani, Mr. Nizam-ud Din Hyder, Mr. V. Ramanatha Ayyar, Dr. V. K. Badami, Sardar D. K. Jadhav and Dr. B. L. Sethi.

VII. *Additional members* :—Dewan Bahadur Sir T. Vijayaraghavacharya, Mr. Chellaram Shewaram, Mr. Mohammad Afzal, Mr. K. Ramiah, Rai Saheb Kalidas Sawhney and Professor R. H. Dastur.

VIII. The Secretary.

The following members were appointed as members of the Technological Research Sub-Committee :—

The President, The Vice-President, The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*), Sir Purshotamdas Thakurdas, Dewan Bahadur Sir T. Vijayaraghavacharya, Mr. S. D. Saklatvala, Mr. Kasturbhai Lalbhai, Lala Shri Ram, Mr. H. R. Stewart, Mr. W. J. Jenkins, Mr. P. H. Rama Reddi, Mr. Chandulal P. Parikh, Mr. M. S. Durutti, Mr. J. Tinker, Mr. J. L. Hurschler, Mr. P. V. Deshmukh, Dr. B. L. Sethi, Mr. E. F. G. Gilmore and Dr. Nazir Ahmad.

Additional members :—Two representatives each nominated by :— The Bombay Millowners' Association, The Ahmedabad Millowners' Association, The East India Cotton Association, and one representative nominated by the Karachi Cotton Association, Ltd.

The following members were appointed to form the Research Students Selection Sub-Committee :—

The President, The Vice-President, Sir Purshotamdas Thakurdas, Dewan Bahadur Sir T. Vijayaraghavachariya, Mr. Kasturbhai Lalbhai, Dr. W. Burns, Mr. P. B. Richards, Mr. H. R. Stewart, Mr. W. J. Jenkins, Mr. P. H. Rama Reddi, Mr. J. C. McDougall, Rao Saheb K. I. Thadani, Mr. R. G. Allan, Mr. T. R. Low, Mr. Nizam-ud Din Hyder, Dr. V. K. Badami, Dr. Nazir Ahmad, Mr. K. Ramiah, Seth Isserdas Varindmal and the Secretary.

The Cotton Forecast Improvement Sub-Committee was constituted as follows :—

The President (*ex-officio*), The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*), The Director General of Commercial Intelligence and Statistics, The Director of Agriculture, Bombay Presidency, The Director of Agriculture, Punjab, The Director of Agriculture, Madras, The Director of Agriculture, United Province, The Director of Agriculture, Central Provinces and Berar, The Director of Agriculture, Sind, The Director of Agriculture, H. E. H. the Nizam's Government, The Commissioner of Agriculture, Baroda, The Director of Statistics, H. E. H. the Nizam's Government, The Director of Land Records, Central Provinces and Berar, The Deputy Director of Statistics, Department of Commercial Intelligence and Statistics, The Statistical Officer to the Director of Industries, Madras. Mr. J. Hurschler and Dr. T. E. Gregory.

The following members were appointed to form the Wider Markets Sub-Committee :—

The President, The Vice-President, Sir Purshotamdas Thakurdas, Dewan Bahadur Sir T. Vijayaraghavacharya, Dr. John Matthai, Mr. S. D. Saklatvala, Mr. Kasturbhai Lalbhai, Dr. W. Burns, Dr. T. E. Gregory, Mr. H. R. Stewart, Mr. P. B. Richards, Mr. W. J. Jenkins, Sir William Roberts, Mr. P. H. Rama Reddi, Mr. J. C. McDougall, Sardar Rao Bahadur Bhimbhai Ranchodji Naik, Mr. Chandulal P. Parikh, Mr. J. L. Hurschler, Mr. M. S. Durutti, Seth Isserdas Varindmal, Rao Saheb K. I. Thadani, Mr. Nizam-ud Din Hyder, Mr. P. V. Deshmukh, Mr. Balak Ram, Mr. Jamshed Nusserwanji, Dr. Nazir Ahmad, Mr. R. G. Saraiya.

SUBJECT 4.—**Report of the Standing Finance Sub-Committee :*

(*a*) Balance Sheet.
(*b*) Financial Statement.
(*c*) Revised Estimates, 1938-39.
(*d*) Budget, 1939-40.
(*e*) Auditors' Fees.

* Appendix I (page 49).

The following resolutions were passed :—

RESOLUTION.—"That the Report of the Standing Finance Sub-Committee be adopted."

" That the Revised Estimates for 1938-39 be approved."

" That Messrs. S. B. Billimoria & Co. be re-appointed Auditors for the year 1939-40 on a remuneration of Rs. 750."

RESOLUTION.—" That the Budget proposals for 1939-40 made by the Standing Finance Sub-Committee be approved and that the Sub-Committee be authorised to include in the Budget necessary provision for the schemes passed at this meeting of the Committee and to submit the Budget to the Government of India."

SUBJECT 5.—*Institute of Plant Industry, Indore—Budget and programme of work for* 1939-40.

The report of the Agricultural Research Sub-Committee which considered the budget and programme of work for 1939-40 was as follows :—

"The Sub-Committee recommended that funds be provided as indicated for the present year.

The extent of the financial assistance to be given to the Institute in the future and the extent of the work which would be carried on at Indore are closely linked with the support forthcoming from the Indian States lying in the areas served by the Institute.

It was noted that there had been a falling off in the States' contribution. The Sub-Committee recommended that the Director of the Institute should report after consultation with the President of the Governing Body of the Institute, the outcome of the drive which was being made in order to improve the position in the matter of States' contribution and that the President and Director should, in the light of the results of the above, make recommendations on the future of the Institute.

The Sub-Committee thought that the programme of work was very extensive in character and they were of the opinion that such a statement could be more readily examined and assessed, if the subject matter which was a continuation of existing work and the subject matter which was new were shown separately."

The report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 6.—*Cotton Ginning and Pressing Factories (Bombay Amendment) Act,* 1938.

In reply to enquiries made, it was stated that portions of the Act relating to watering and the mixing of cotton waste were already in force in the Bombay Presidency and that the Local Sub-Committee had forwarded to the Provincial Government its views on the draft rules.

It was pointed out that Government intended to apply the Act throughout the Presidency as soon as arrangements were complete for putting it into action.

The Secretary's note was recorded.

SUBJECT 8.—*Central Provinces Cotton Control Act—Final Rules under—.*

It was reported that although the final rules under the Act had been published, it was not intended to enforce them during the current year, as the sowing date was practically over ; intensive propaganda, however, was being done in the meantime to make the rules more effective.

The Secretary's note was recorded.

SUBJECT 7—*Licensing of ginning and pressing factories in the Punjab—Reference from the meeting of the Committee held in January* 1938.

SUBJECT 9—*Cotton Transport Act—Application of—to the Punjab.*

Sir Purshotamdas Thakurdas said that as Subjects 7 and 9 both aimed at preserving the purity of the staple cottons of the Punjab by one means or the other, it would be appropriate to discuss these together. Subject 7 dealt with the Cotton Ginning and Pressing Factories Act and its application to the Punjab, while Subject 9 dealt with the Cotton Transport Act which was conceived by the Government of India with the main object of preventing cotton of lower quality being carried into areas growing cotton of superior quality for purposes of mixing. The Cotton Transport Act had been effective in certain parts of India and it was felt that it might be found to be effective in the Punjab also, in preventing short staple *desi* cotton from being carried to areas where long staple cottons were grown. In view of the special conditions of the Punjab the general opinion of people who were in a position to advise the Committee was that the application of the Cotton Transport Act would be very difficult and would mean great harassment to the people and that Government would find it very difficult to prevent the transport of cotton by camels or by road. He was inclined to agree that this was perhaps a method which might be put off for the time being, because there were difficulties in the way and it might not prove to be effective. He wished, however, to draw the attention of the Hon'ble Minister to Enclosure 2 to Subject 9 in which an extract from the Minutes of the Committee held on the 25th and 26th January last was given. In the last paragraph of the extract it was stated that the President observed "that this was probably the area for which the N. W. Ralway had granted concessional rates for *kapas*." He thought that while control by road might be put off for the time being, the Committee would like to urge on the Punjab Government that the transport of *kapas* by rail should be prohibited. He felt that facilities of transport by rail was the last thing which should be made available for purposes which could not be justified. What could be the reason for a man to carry short staple *kapas* to an area growing long staple *kapas* except to mix it with the genuine stuff of that area ? He mentioned this so that the Hon'ble Minister might, at his early convenience, go into this matter and address the North-Western Railway authorities. He was sure that where the Committee had failed the Punjab Government might succeed. It had been stated that such transport did not exceed 5% of the total crop of this province, but 5% was a large quantity and he thought that it should disappear altogether. He did not wish to say anything further on this subject except to express the hope that the Hon'ble Minister would soon address the North-Western Railway to prevent railway wagons being used for carrying short staple *kapas* to long staple cotton areas.

The next question on which he wished to say something was Subject 7, which was a reference from the meeting of the Committee held in January 1938. The views of the Punjab Provincial Cotton Committee held on the 30th October 1937 were contained in the papers attached to this subject. He had no doubt that the Punjab Government would agree that where a cultivator did not resort to mixing in the field, any efforts at mixing, once the *kapas* had left the field, could be taken to be not in the interests of the cultivator but of somebody else, such as, the gin-owner, middleman, etc. Such mixing was done from purely selfish

reasons. It had been suggested at one time that the Committee might agree to the Punjab cotton being marketed mixed, so long as the percentage of mixture on each bale or in each lot was stated. This suggestion was, however, turned down by the Committee, and he hoped that the Committee would never agree to it. Once the bales were marked 10%, 20% or 30% mixed, it would completely mar the name of the province abroad. If this device of marketing cotton branded so much mixed were resorted to, he had no hesitation in saying that the buyers abroad would say that they were being given manufactured produce of the province. The reason why the Indian Central Cotton Committee pressed for the maintenance of the purity of the Punjab and Sind produce was that these were the two provinces which produced the largest quantity of staple cotton and which could increase this quantity and maintain it. Apart from that, these were the provinces where the best efforts of the Local Governments and the Indian Central Cotton Committee had been concentrated. He was fully aware that in parts of the Punjab short staple cotton had to be grown, because the quality and the type of soil were such as did not permit of the long staple cotton being successfully grown. But it had never been urged by any one that the grower, whether big or small zamindar, mixed the stuff and marketed it. If mixing was tolerated for a few more years and an effective check not put on it at once, then after five or ten years it would get into the blood of the grower and he would look upon it as a normal state of affairs. The effect of this on the prestige of the cotton of the province was obvious. The reasons for putting a check on this were even stronger in the case of Sind, where there were enormous blocks and where, it was not necessary as in the Punjab, to allow short stapled cotton to grow. Punjab and Sind were the two provinces which could, during the next ten years, earn for India an extremely high place in the matter of growing pure staple cotton. The main apprehension against this was that it would entail the employment of an army of inspectors who would go round to the various presses and harass the people in charge. If there was to be such an army of inspectors, he could sympathise with the apprehensions of the gin and press owners that it would simply be adding a few more people whom they would have to please. But he was himself dead opposed to the employment of any inspectors. What he had in view was control of the trade by the trade. The complainants in such cases would be the persons purchasing the cotton. If a person bought Punjab-American cotton and found that he had got something that was badly mixed, he would be the complainant. The Cotton Ginning and Pressing Factories Act would enable the bales to be traced to the factory at which it was ginned and pressed and finally to the person who was the culprit. The procedure, when there was a complaint, would be that under the Act certain officers would be appointed by Government to draw samples. These samples would be sealed and sent down to the body or Association appointed for the purpose of assessing and finding out whether or not a cotton was mixed. Such an Association might be the East India Cotton Association which had an Appeal Committee of experience and had recently established Blind Surveys (blind, in the sense that members of the Appeal Committee only knew two hours before the appeal, that they had to act on an appeal without knowing the names or where the samples came from). The samples would be seen and judged on their merits. It was the unanimous opinion in the Bombay market that this device, which had now been put into practice, was successful. There was nothing new in it, as similar system prevailed in Bremen also. The

Appeal Committee would declare whether the cotton was pure or mixed. Even if it was thought that such an Appeal Committee would not be able to judge the extent of the mixture to a very great degree of accuracy, he did not think that anybody would contend that they would not be able to do so to the extent of 10 to 15%. To-day in the Punjab and Sind, cotton was, actually being sold and bought as 20%, 40%, 60%, and even 75% mixed. He had in his pocket the dates and names of the parties who had entered into such contracts. The Cotton Ginning and Pressing Factories Act would prevent even dishonourable people making contracts of this nature. He thought that a start might be made and the results observed for a year or two. He did not suggest that the scheme would be absolutely perfect, but he did think that with the good will of the Punjab Government and the Punjab Agricultural Department and the co-operation of the people here, success would be achieved and in the next five years it might be possible to bring the Act as near to perfection as possible. Once the Act was put into operation, the practice of mixing would be put a stop to, and the impetus to grow short stapled cotton would disappear and the cultivator would grow what was necessary according to the quality of the soil. The Indian Central Cotton Committee did not wish to harass the middleman or the gin or press owner, but it would fail in its duty if it did not stand up and say that it would not tolerate the trade being carried on with the deliberate intention of mixing. In conclusion, he hoped that with the explanation he had given, *viz.*, that no inspectors need be employed and that cotton would be judged eventually by people who had nothing to do with the Punjab or with local jealousies or local competition or with middlemen in the local market, any apprehension that there might have been would be removed. The Committee was anxious to see that the grower was not handicapped for the misdeeds of others. All those who held that by marketing mixed stuff the cultivator got a little more for his short staple *desi* cotton, overlooked the fact that the cultivator who grew the genuine Punjab-American stuff did not get the appropriate price for it. There was no doubt that mixing was doing immense harm to the reputation of the Punjab cottons. He proposed accordingly that the Punjab Government be requested to introduce the Cotton Ginning and Pressing Factories Act in the Punjab Legislative Assembly as soon as possible.

The Hon'ble Sir Chhotu Ram said that he was very glad to have been able to be present at this meeting. He was once a member of the Committee himself, though that connection did not last very long, as he had to resign to take up office as Minister of the Punjab Government. Agriculturist by birth and an agriculturist in his outlook from the outset, he had been associated with the activities of the Department of Agriculture for a very long time. The importance to the Punjab of the subjects under discussion could not be overemphasised, and he was thankful to Sir Purshotamdas Thakurdas for making the issues so clear. In so far, however, as the application of the Cotton Transport Act to the Punjab as a whole or even to selected portions was concerned, he was afraid he found it very difficult to agree to the proposal. His reasons for this were that, in the Punjab, American and *desi* cottons were grown side by side, and the areas where pure American cotton alone was grown were not very large. There were many portions of the province where American and *desi* cottons were grown practically half and half. He agreed that there were some parts of a few districts where an overwhelming proportion of the cotton was American. There were two

tehsils where the area under pure American cotton was about 2½ lakh acres, while the proportion under *desi* was barely 5 or 6%. In fact, one of these *tehsils* grew only a little over 2% *desi*. In Jhang district, the area under pure American was very large as compared with *desi*. Similar conditions prevailed in two *tehsils* of Shahpur district, but even in these three parts of the province, the total area under *desi* was nearly 30% of the area under American. An area which represented practically a third of the area under American cotton could not be regarded as inconsiderable or negligible and the difficulties were insuperable, because, unless there was a sort of a cordon round the areas where pure American cotton was grown, it would simply be impossible to prohibit the entry of *desi* cotton into those areas. The transport was not only by road and railway, but most of the cotton came on camel back. It was obvious, therefore, that it would be next to impossible to apply the Cotton Transport Act. There was also another difficulty in this connection, and that was that the application of the Act might possibly lead to complications with the Bahawalpur and Bikaner States along whose territory these areas lay. For these reasons, he was not in favour of the Cotton Transport Act being applied to the Punjab, either as a whole or to any portion thereof.

The Second proposal, however, *viz.*, that relating to the passing of a law which would make it compulsory for ginning factories to take out licenses seemed to him to be more hopeful. While he was not in a position at the moment to commit himself definitely on behalf of the Government as he had not consulted either the Premier or the Ministerial Party, he was personally favourably inclined to the proposal. The only thing which made him hesitate somewhat was that, during the last 18 months, they had been passing laws which had hit the commercial and money-lending classes rather hard and, therefore, he could not say whether the Ministerial Party or the Head of the Government would consider it desirable to administer yet another dose of unpopular legislation to the same classes. Personally he agreed that no harm would be done if ginning factories were licensed, because the honest ginner would not suffer thereby. He was sure also that it would add to the popularity of the Punjab cottons, would create confidence in the minds of buyers and ultimately bring higher prices to the grower. He was, therefore, in favour of considering the proposal of a Bill which would make it compulsory for ginning factories to be licensed. While going through the note, which Mr. Stewart had prepared for him, he came across a remark by some people that the grower got a higher price for his *desi* cotton because there was ready sale for mixture. Personally he did not subscribe to that view. If the grower got a higher price for his *desi* mixture, the reason was not that there was any particular virtue in the mixture as such but because there was a demand for *desi* cotton for purposes of mixing for a particular type of cloth which could be produced only by the use of mixed cotton. So long as that particular type of cloth remained in demand, the demand for *desi* cotton for purposes of mixture would also continue, and the grower of *desi* cotton would be able to get these prices. He did not think that there was any reason for the ginners to fear that they would lose. After all, what they would be required to do was merely to keep *desi* and American separate, and it was a perfectly reasonable proposal for the Government to insist that they should not indulge in mixing. The purchaser would know what he was purchasing and the seller would know what he was selling, and he had no doubt that that would make for greater commercial honesty and would have the effect of creating confidence in

the quality of Punjab cottons which confidence was lacking at present. He accordingly assured the Indian Central Cotton Committee that, in so far as the proposal for the licensing of ginning and pressing factories was concerned, he was personally favourably inclined and hoped that the Ministerial Party and the Premier would also be agreeable. Any legislation which would diminish the profit of the middleman was however, likely to be viewed with suspicion by the middleman and was bound to be opposed. Nobody, however, desired that the middleman's interests should be injured unduly.

There were two grounds on which he felt he could appeal to the Ministerial Party and the Cabinet as a whole. Punjab growers were very anxious that the import duty on foreign cotton should be enhanced, but if they were not in a position to give an assurance to the purchaser that the Punjab cotton was pure, they could not, with any reason, insist upon the enhancing of the import duty, because the millowner could reasonably turn round and say that he had no confidence in the quality of the indigenous cotton which had so much mixture in it and, therefore, he was, by force of circumstances, compelled to place his order for such cotton in Egypt, Sudan or America. It was, therefore, in the interests of the growers to insist that this mixing should stop and if this were done, the Government of India could then be approached with greater force for the enhancement of the import duty on foreign cotton. Another point to which he would draw attention was that huge quantities of foreign cotton were being imported into India in spite of the fact that both Punjab and Sind were producing very large quantities of medium and long staple cottons which could meet practically the whole demand of the Indian mills which used long staple cotton. If they were once in a position to assure the millowners and the Government of India that Punjab and Sind cottons were pure, then their claim for enhancing the duty on foreign cottons would be considerably strengthened. He was sure that these arguments would appeal to the Ministerial Party as well as to the Cabinet. Concluding, he said he desired to assure the Indian Central Cotton Committee that, in so far as the proposal for the licensing of ginning and pressing factories was concerned, he was sure that it would receive a very sympathetic and favourable consideration on the part of the Cabinet and the Ministerial Party. Personally he was definitely in favour of it.

Sardar Ujjal Singh said that he wished, from the outset, to dispel any doubts that might exist in the minds of certain members of the Indian Central Cotton Committee that they, in the Punjab, were not anxious to keep the purity of the American cotton or to enhance its reputation. The grower in the Punjab, in spite of his low purchasing power, always produced pure American cotton and marketed it almost pure. Mixing was done either by the village *bania*, who marketed the stuff, or in the ginneries. In the ginneries also the mixture was carried on at the instance of the trader or the purchaser of the cotton. The reason why they had been averse to any legislation, either in respect of the application of the Cotton Transport Act or the licensing of gins and presses, was merely due to the natural complications and difficulties of the province. There were no definite zones for the various varieties of cotton in the Punjab. American and *desi* were grown side by side, and it was only in three or four *tehsils*, as the Hon'ble Minister had pointed out, that a large area of pure American cotton existed. It was due to various factors, such as canal water supply, etc., that the grower had to sow *desi* cotton even where

the soil was suitable for American. Secondly, it was very difficult to distinguish a certain percentage of mixed American from the first or third pickings of American. By means of technical tests it might be possible to distinguish a mixture of 20 or 25% from a pure third or first picking of American cotton, but ordinarily it was very difficult to distinguish the mixture from a third picking of American. Another point was that with every first or third picking of American a certain percentage of *desi* was required for selling it in the market as it did not fetch any price worth the name unless it was mixed with pure *desi* to the extent of 30% and sometimes 40%. These were some of the difficulties that they had to contend with and that was why they thought that they should wait for some time in order to see what the results of similar legislation in Bombay and the Central Provinces had been. Continuing, he said that in so far as the application of the Cotton Transport Act was concerned, there were inherent difficulties, as had been pointed out by the Hon'ble Minister. There were no separate zones and the boundary of the area in which American cotton was grown in large quantities was so extensive that it would be quite impossible to create a cordon or barrier to have any effective check for the intrusion of *desi* cotton into that area. With regard to the licensing of gins and presses, he admitted that there had been an objection regarding the employment of an army of inspectors with all the attendant corruptions. But that had now been removed by Sir Purshotamdas Thakurdas. He wished to point out that at present there was a certain amount of competition between the buyer of mixed cotton and the buyer of pure American cotton. So long as there was a trade demand for mixed cotton, to eliminate a competitor would result in lower prices for the grower. He could concede that if the ginner were to mix cotton of his own accord and were then to send it to Bombay or Karachi to sell it as pure cotton he would be committing a fraud, a dishonesty which should be checked at once. But if there was a trade demand or order from the Japanese or other buyers for a certain percentage of mixed American cotton then, naturally, the ginner would want to meet it to get a better price. That better price, however, would filter down to the grower. His experience was that at times the price offered by a millowner for pure American cotton was not so tempting as the price offered by a purchaser of mixed cotton, and in the presence of that competition the purchaser of pure cotton must raise the price of pure American cotton. It might be that in the future Japan, who had been the greatest buyer of their cotton in the past, might not be in the market. In that case, for the future good of the cultivator, it was necessary that the reputation of their long staple cotton should be maintained. If legislation for this purpose were enacted, it was absolutely necessary that some arrangement should be made so that the ginner might be able to mix *desi* with the third picking of American, otherwise the third picking of American would not sell. Secondly, as had been stressed by Sir Purshotamdas Thakurdas, the army of inspectors must be eliminated and the testing by survey of samples of any stuff should be entrusted to the Appeal Committee of the East India Cotton Association. He would, however, suggest that the legislation, in the first instance, should be for a temporary period of three years, so that they might judge whether it was going to benefit the grower at all or not. Further, if the purchaser of the mixed cotton was going to be eliminated, the grower must be assured that the long staple pure cotton would find a good market in India. His grouse was that in India the millowners had been importing South-African and American cottons in spite of the fact that in the Punjab they were

growing 289-F variety with a staple 1″ to 1⅛″. This variety could compete very favourably with some of those varieties which the millowners were importing. Last year 289-F was selling at Rs. 75, on Broach from November to January, then the import of foreign stuff started, and from March the premium fell to Rs. 45, and even to Rs. 35. The result was that the grower of long staple cotton was very much discouraged. It was for this reason that he insisted that the grower of long stapled variety must be assured that it was going to fetch a good price and would find a good market in India. If this were done, any prejudice that there might be against the legislation would disappear.

Sardar Saheb Labh Singh suggested that the trade should come nearer the producer and that efforts should be made to get the purchaser to come to the grower direct. He thought it should be possible for a single millowner or a number of them to combine together and have factories in the centres where pure American was produced, and buy the *kapas* for their own use. That would be ultimately in the interests of the millowners themselves.

Lala Shri Ram, referring to the remarks of Sardar Ujjal Singh that it was necessary to mix *desi* with the first and third pickings of American, said that his mill at Lyallpur started purchasing American cotton from the day of the first picking to the last day of the third picking, but it had never been found necessary to mix *desi* with it. One of the reasons why his mills purchased their requirements in *mandis* and had them ginned was to avoid mixing. He thought that the Committee would perhaps be interested to know that his mills used 5% of cotton produced in the Punjab. On purchase, lots of 2,000 or 3,000 maunds were kept separately and later they were mixed together, so that they might have uniform running all the year round. The lots of American cotton purchased from, say, Mian Channu, Sargodha, Lyallpur, etc., would be sent to Delhi and kept separately and, if a lot of 20 bales was required, they took five bales from each lot to make up the 20 bales. This was a very common practice amongst millowners, but no mixing with *desi* was ever done.

Sardar Sampuran Singh said that the previous speakers had made the issues very clear. Millowners in this country imported long staple cotton, from outside, while Japan and other countries in Europe wanted mixed cotton from India. From the farmer's point of view it required to be decided as to whether it paid him more to sell American cotton mixed for export purposes or whether it was worth while for him to keep it pure and sell it to millowners in India. He thought that either the Committee or the Government of the Punjab should engage special officers to collect all the statistics to show how much cotton went outside as mixed and how much was sold pure to the millowners in India and what the comparative prices in each case were. With regard to the import of foreign cotton, he thought that the imported stuff was better in quality than the Punjab-American. If his assumption were correct, then it would be difficult to stop the importation of such cotton even if they ginned and sold their Punjab-American pure. Sir Chunilal Mehta had at one time said that no other cotton in India except 289-F could be used in place of imported American cotton. If that were the case, then he was afraid that as the quantity of 289-F produced was not very large, it would not be possible to stop the import of foreign cotton altogether. It was true that Sind and some parts of Western Punjab

did produce large quantities of 289-F, but districts like Lyallpur, Montgomery, etc., did not grow much 289-F. He wished to point out that the provinces of Bombay and the Central Provinces, which actually passed this legislation, had not found it possible to enforce the provisions of the Act. In the circumstances, he was of the opinion that unless they had all the data and the opinions of some experts in the matter, they should not go ahead with the proposed legislation.

Col. Bruce said that he was strongly in favour of passing legislation for licensing of ginning and pressing factories, and he thought that Sir Purshotamdas Thakurdas' explanation was the best way of getting over the necessity of employing inspectors, etc. His experience was that no intentional mixing was done by the cultivators in the field, but that the seed got mixed up to some extent in the factories. The bigger estates grew absolutely pure stuff and he personally got his produce of American and *desi* ginned separately at the same factory and got better prices than most people for his pure stuff. He did not believe that any harm would come to the cultivator if mixing were stopped. In the long run adulteration ruined the trade of a country. India had a very bad name abroad for mixing cotton, and if the millowners gave an assurance that the cotton produced here was good enough and that they would take the pure stuff, then he did not see what harm could possibly come. 289-F had been mentioned, but it did not do well in all the districts. The cotton that did well and was more popular was LSS, which was an improvement on 4-F and gave a higher price than any other cotton in Lyallpur. With regard to the Cotton Transport Act, the thought that it would not be possible to apply it to the Punjab, because in many districts both the cottons were grown side by side.

Major Prideaux said that he was in favour of mixing being stopped. He thought the moment mixing was stopped there would be an automatic reduction in the *desi* area. In the Canal Colonies that was bound to happen. Further, they had an improved type of *desi* called 'Jubilee' which was of medium staple and which could definitely be grown in place of *desi*. Again, there were various qualities of 289-F, *viz.*, 289-F 43, K. T. 25, etc., which covered a large area. In the Montgomery district there had been a large increase under 289-F and he thought that they could meet the demand of the Indian mills which imported long staple cotton, if the import of foreign cotton could be stopped. He was of the opinion that legislation for licensing of gins and presses should not be allowed to be delayed any longer.

Sardar Dattar Singh said that in so far as the Cotton Transport Act was concerned, the Hon'ble Minister had fully explained the difficulties, and he supported the view expressed by him that it would not be feasible or possible to apply that Act at the present moment. Regarding the Cotton Ginning and Pressing Factories Act, as Sir Purshotamdas Thakurdas had said, mixing was done not in the interests of the cultivator but from selfish interests of the purchaser or the factory owner. His experience was that people who grew large areas of cotton got a ready market and a better price for their pure cotton. He had himself got a premium of 2 to 4 annas a maund for his pure cotton. Another advantage was that buyers were prepared to come to the doors of the growers of pure cotton, who were thus spared the trouble and expense of taking the cotton to the market and incurring so many charges. This advantage, however, was not enjoyed by the small cultivator, because

he had a very small quantity and the buyer did not care to go to his door to purchase it. The result was that when his (small growers) cotton came to the market it was mixed. Mixing was not in the interest of the growers, but there was no temptation for the grower to grow his cotton pure, because he got just the same price for his pure cotton as another man got for his mixed stuff. He was of the opinion that if this legislation were put into force, it would help both the big and the small grower. He therefore, very strongly supported the measure and thought that the Punjab Government should give it an effective shape at a very early date. It had been mentioned that it was necessary to mix American with *desi* cotton to manufacture a certain quality of cloth. He was not an expert, but, if this was the case, the required mixing could be done quite easily by the textile people in their own mills instead of at the ginning factory. He thought that enhancing of import duty would encourage cotton growers to grow pure stuff, while it would discourage the millowners from importing their requirements from outside. At present they grew nearly 6 million bales of cotton every year but only half of this quantity was consumed by Indian mills. The plea of the Indian mills for persistently importing foreign cotton was that they did not get such fine cottons in India. If this legislation were introduced, it would give an impetus to grow finer cottons which could take the place of imported cottons and thus bring better prices to the grower.

The Vice-President said that it seemed to him that a cloud of mistrust had been created by the statement made by one or two speakers that other provinces had not put the Act into operation. He wished to disabuse the minds of members with regard to any mistrust that they might entertain regarding the intentions of the provinces which had already passed these Acts. Although the problem was by no means so pressing in the other provinces as it was in the Punjab it was noteworthy that, the Central Provinces and Bombay had already passed these Acts and it would not be long before they would be put into effective operation. He wished to point out that in the Central Provinces the Act had already produced excellent results in so far as its effect on the malpractice of watering was concerned. The same objections were raised when the Act was proposed in the Central Provinces, and the same difficulties were advanced as to the administration of the Act. The results, however, had been quite the opposite for, whereas in the two previous years the complaints with regard to moisture were between 300 to 400, in the last year they were reduced to only 4. Nowhere had it been stated that the price of C. P. cotton had suffered as a result of the introduction of the Act. He thought that in the Punjab also, which had a good supply of intermediate cotton suitable for spinning 20's counts and over, it was necessary to protect that cotton. It was not for nothing that the Punjab-American cotton was carried 1,200 to 1,500 miles to the Bombay Presidency, to Cawnpore and other parts of India. The reason was that it was a good cotton. It was, therefore, desirable that its purity should be maintained at any cost. It was because the Punjab-American cotton was a good cotton and there was demand for it that *desi* cotton had given way to it, as was shown in the decrease in acreage of the latter during the last ten years. Much had been said about the spurious demand for mixed cotton from both Japan and Lancashire. He would not say anything about the continuance of the demand from Japan which was in danger of disappearing. He thought Major Prideaux had given facts to prove that India would lose that customer before long. Japan was making frantic efforts to stop buying

Indian or any cotton. With regard to Lancashire, he understood from the President that during his (the President's) last visit to Lancashire he received complaint after complaint regarding the unsuitability of 4-F cotton because it was mixed. One speaker had suggested that it would be easy for the trade or millowners in this country to create an organisation by which they could buy pure *kapas* in the Punjab itself and gin it separately for their own use. He would like the Committee to consider the amount of organisation and money that would be involved if this were to be done on a large scale. Even Lancashire had not found it possible to do so. He wished to point out that there was a legitimate and growing demand for pure cotton both from Lancashire and from the mills in India. With regard to the importation of foreign cotton, he entirely agreed that there was no need for cotton to be imported into this country. It had been argued that it would hit the users of finer cloth. If that were so, he would not be sorry if the users of finer cloth diminished or disappeared. He would like to make it clear that with the prohibition of the import of foreign cotton, the import of finer cloth also should be restricted. These two things must go together, and he was sure that every one would agree with him that a higher duty on imported cotton must be accompanied by an equivalent higher duty on imported cloth. If this were done, it would give an impetus to the improvement and growing of finer cottons as well as to the manufacture of finer cloth from such cottons. This was not impossible and could be done even to-day, but the cost was so prohibitive as compared with imported cloth that it was not a practical proposition. It was necessary to create confidence in the users that the supplies of long staple cotton for making finer cloth would be maintained. At the moment such confidence did not exist and it could only be created by stopping the mixture not only of *desi* cotton with 4-F but also of 4-F with 289-F. On these grounds he was emphatically of the opinion that legislation should be introduced in the Punjab. He would like to say that in spite of the mixing that was going on in the factories, the grower kept his produce pure. It was, therefore, not right to allow a third party, whether he be middleman or factory owner, to benefit at the expense of the grower. Continuing he said that the Committee was very much encouraged by the statement which the Hon'ble Minister had made. With regard to the Hon'ble Minister's reluctance to administer another dose of unpopular legislation, he did not suppose for a moment that the powerful Punjab Government required the assistance of any outer body. The Punjab Government had pushed through legislation in the teeth of bitter opposition which they considered to be for the benefit of the cultivator, and he did not see why another measure, which would bring even a greater degree of benefit to the cultivator in the long run, should not be undertaken. The Hon'ble Minister could fortify himself, if any such fortification was necessary with the fact that a responsible body like the Indian Central Cotton Committee, which had been pursuing this matter for a number of years, had come to the conclusion that this measure should not any longer be delayed. He thought that the longer this was put off the greater would be the injury to the cultivator and the greater the danger of lowering the price of the Punjab cottons. There was a glut of short staple cottons in this country which could not be disposed of. There was also a glut of all cottons in the whole world. One member had explained only the other day that there were about 300 million bales of cotton which had not been disposed of. It was, therefore, important that the Punjab should not run the risk of deterioration in the quality of its cottons when they knew

that their biggest buyer of mixed cotton, Japan, was making frantic efforts not to buy any more Indian cotton. He hoped that the Hon'ble Minister would succeed, at a very early date, in persuading the Ministerial Party and the Premier to carry this important legislation. With regard to the question of third picking, he thought that Lâlâ Shri Ram had given an answer out of his own experience. He used no less than 5% of the cotton of this province and surely his experience should be enough to convince Sardar Ujjal Singh.

Sir Purshotamdas Thakurdas said that before moving his resolution on these two subjects, he would like to supplement what had just been stated by the Vice-President regarding the results achieved from the application of the Act in the Central Provinces. He wished to quote the example of Surat, where the Cotton Transport Act had been successfully applied and where another Act had been passed under which any *Goghari* plant found in the field could be uprooted by the Agricultural Department. Nothing so stringent had been suggested for the Punjab, because that was not feasible here as some lands could not grow long staple varieties. This was ample proof, however, that the Indian Central Cotton Committee was not partial to Surat or to any province, and he submitted that any suspicions in that direction were not warranted. The Surat district and the Bombay Government had co-operated with the Committee in the best manner possible and he hoped that the Committee would have the same amount of co-operation from the Punjab also. The Hon'ble Minister had assured the Committee of his very sympathetic consideration. He wished to suggest, however, that he (the Hon'ble Minister) should not only be very sympathetic but should very seriously consider the matter and take up the question of legislation at a very early date, because it was dangerous to put it off any longer. The Committee fully realised the gravity of the point he had put before it, *viz.*, the political exigencies in this matter in the Punjab. He wished to submit to him, however, that in India political exigencies must be made to stand below the economic interests of the province concerned. Sardar Sampuran Singh had said that if his doubts could be removed he would not be prejudiced against the measure and he (Sir Purshotamdas Thakurdas) hoped that the explanations given by the Vice-President and himself would have convinced Sardar Sampuran Singh. He felt that the members of the Provincial Cotton Committee had also been convinced that this legislation was in the interests of the province as a whole, and he accordingly moved the following resolution :—

RESOLUTION 14.—" The Indian Central Cotton Committee welcomes the assurance given by the Hon'ble Minister for Development that he is personally satisfied that it is desirable to prevent the mixing of short staple with long staple cotton and that though he cannot commit himself he will invite the Punjab Government to give early consideration to the introduction of the licensing of gins and presses in order to stop the mixing of Punjab American cotton as the Committee is convinced that this step is in the best interests of cotton production in the Punjab and India as a whole."

The resolution was seconded by *Sir William Roberts* and was carried, two members only voting against it.

Sir Purshotamdas Thakurdas then moved :—

RESOLUTION 15.—" The Indian Central Cotton Committee notes the difficulties of the Punjab Government in applying the Cotton Transport Act to the Punjab under the existing conditions. The Committee,

however, requests the Punjab Government to examine the imports of short staple *kapas* by rail into areas growing long stapled cotton with a view to persuade the North-Western Railway not to give wagons for carriage of *kapas* without a license being procured by importers of such cotton from the Agricultural Department of the Punjab Government."

Continuing, he said that this resolution was based on what was actually in vogue in Surat, which was a protected district, and no *kapas* from outside could be imported by rail without a license being procured by the importer from the Director of Agriculture. He was sure that the North-Western Railway would agree to this prohibition of import of short staple cotton into the Punjab by rail.

SUBJECT 10.—*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.*

The Secretary's note was recorded.

SUBJECT 11.—**Present position of cotton—Regulation of area under cotton in India.*

It was explained that this subject had been considered by the Local Sub-Committee several times during the year and that as a result certain recommendations had already been made to Provincial Governments. The chief difficulty lay in the disposal of the Indian short staple cotton, principally *Bengals, Oomras* and *Khandesh,* due to a considerable falling off in exports to Japan and other countries for various reasons. As a result of the Committee's past policy, steps had already been taken to substitute short staple by long or medium staple cotton whenever possible but the process was necessarily slow and had not so far made any appreciable difference to the problem under consideration.

The view was expressed that the position might be rendered less acute by increasing the use of short staple cotton in the country and by finding other uses for it and it was suggested that the example of Lancashire, which had in the past few years increased its consumption of Indian cotton, should be followed and steps taken to show spinners and weavers how better cloth could be made at less cost from such cotton. The raising of import duty on artificial silk yarn was yet another suggestion made. The adoption of measures to increase the average yield of Indian cotton, which is lower than most other cotton producing countries, was considered to offer possibilities of reducing the cost of production per acre.

From the point of view of improving the race of plants, it was considered essential that the cotton-breeder should be provided with good breeding material, combining all the economic characters and at the same time showing variations in respect of them, as such variations offered scope for the evolution of suitable types. It was considered desirable that the breeders should be sent to foreign countries to collect material which was likely to be of use in their work. It was explained that the present system of getting small samples of seed by requisition was not satisfactory. Another factor which, it was stated, required immediate study was 'Soil Erosion', which was causing soil deterioration and diminished yields. The need for division of cotton areas into zones for growing long, medium or short staple cottons was also

* Appendix II (page 51).

emphasised and it was explained that this possessed the further advantage of preventing mixing and adulteration. A suggestion was also made that steps should be taken to reduce irrigation charges and cost of picking as these constituted the major portion of the cost of production. Reduction in rates of interest chargeable on loans taken by cultivators and lower freight rates were other means suggested for affording relief to the cultivator.

A suggestion was made that the Committee should not devote any funds towards the improvement of short staple cotton and that if any reduction of area were contemplated, it should be under short staple cotton. It was pointed out that while it was possible to increase the yields of Indian cotton by 25 per cent. by the adoption of better farming methods, increased production might have a depressing effect on the price of cotton.

It was urged, however, that a more intensive study of the soil, cultural and manurial factors which determined the efficiency of cotton growing was required as India lagged behind other countries in this respect and the yields were consequently very low.

In regard to the Punjab, it was pointed out that within the past ten years there had been a considerable increase in the proportion of long and medium staple cottons. There were some areas, however, where only *desi* cottons could be grown.

Conditions in the Central Provinces were reported as being similar to those of the Punjab. In Berar, the two important crops were cotton and *juar*. Recent low prices had brought about a reduction in the cotton acreage. The Agricultural Department was also trying to induce cultivators to do away in part at least with the growing of the revenue crop and to revert to subsistence crops. Much useful work had also been done in the matter of rotation experiments and a three-course rotation of cotton, *juar* and groundnut was now being gradually adopted by the cultivator on the recommendation of that Department.

After further discussion it was explained on behalf of the Local Sub-Committee that the point on which the Sub-Committee required guidance was whether reduction of area under cotton should be recommended to Provincial Governments or whether the full Committee endorsed the views already expressed by the Sub-Committee. It was argued that though the efficiency of the grower was deplorable, restriction of acreage would not provide a remedy. The statistical position was bad but there seemed no reason why a halt in cotton growing should be called. Figures showed that the consumption of cotton in India had gone up from the low to the high grade cotton and this had a bearing on the question of restricting the import of foreign cotton in India. Opinion was practically unanimous that in so far as foreign cotton competed with Indian cotton, its import should be stopped, but when foreign cotton was of a type that did not directly compete with Indian cotton, the point for consideration was whether its prohibition would not give a setback to the country's economy and to the productive capacity of the Indian mills to meet the Indian demand.

Another point urged for consideration was whether, in view of the development of artificial silk, any restriction in cotton growing was advisable. If the answer was in the negative, there should be no relaxation of efforts to stop mixing and other malpractices which prevented certain cottons from being used to the best advantage.

The view was expressed that the question of the restriction of cotton cultivation, especially on marginal lands, was one of local importance but efforts should be concentrated on the diversification of crops. In America, the restriction of cotton acreage had resulted in a rise in yield per acre. In India the problem was concerned with the cash value of the cotton crop and what might pay the cultivator best in one year might not be the same in the following year. In spite of the good work the Committee had done, the gain to the cultivator had been small and propaganda should be undertaken to bring home to him improved methods of agriculture resulting from research.

A strong plea was put forward for increasing the import duty on foreign cotton as such imports tended to accentuate the plight of the growers. It was further urged that the present import duty had been a potent factor in increasing the area under staple cotton in the Punjab and Sind. Manufacturing interests had considerable protection and this demand could not be considered unreasonable under present conditions. It was argued however that no material advantage would be gained unless a prohibitive duty on imported cloth was simultaneously imposed.

The position of *Sind* and *Punjab* short staple cottons was not considered to be so acute as that of the *Oomras* cottons as owing to their peculiar qualities, they found a ready market in the United Kingdom and other foreign countries. The *Oomras* crop on the other hand was exported to the extent of 70 per cent, chiefly to Japan, and this offtake was now uncertain. As the yield of *Oomras* cotton was only 68 lbs. per acre, its cultivation did not seem to be an economic proposition and the possibility of replacing it by another crop which would give the same return should be explored.

It was also pointed out that whenever a better price was received for staple cotton, the crop in the following year was automatically bigger and that, therefore, if millowners paid a higher premium for such cotton, more of it would be available and there would be no need to import cotton from outside.

After further discussion it was decided, in view of the complexity of the issues involved, to appoint a Special Sub-Committee to examine all aspects of the question and to submit a report for the consideration of the Committee at its next meeting.

The position as summarised by the Secretary at the end of his note was endorsed and the note* recorded.

The constitution of the Special Sub-Committee is given below :—

The President, the Vice-President, Sir Purshotamdas Thakurdas, Sir William Roberts, Mr. Kasturbhai Lalbhai, Lala Shri Ram, Dr. W. Burns, all the Directors of Agriculture, Mr. V. Ramanatha Ayyar, Mr. M. S. Durutti, Mr. J. L. Hurschler, Mr. A. P. Darlow, Mr. S. D. Saklatvala, Rai Saheb Kalidas Sawhney, Mr. Jamshed Nusserwanji, Mr. Chandulal P. Parikh, Mr. Roger Thomas, Seth Isserdas Varindmal, Mr. T. R. Low, Mr. J. Tinker, Mr. F. Stones, Dr. Nazir Ahmad and the Secretary.

*Appendix II (page 51).

SUBJECT 12.—*Manufacture of Artificial silk in India :—*

(*a*) *Reports by Dr. Thoria.*

(*b*) *Production of cotton linters in India.*

(*c*) *Determination of cost of production of chemical cotton—Letter from Director, Industrial Research Bureau.*

SUBJECT 13.—*Proposal for investigating the conditions under which one Indian weaver may be able to look after at least eight looms—Resolution by Lala Shri Ram.*

SUBJECT 22.—*Technological Research—Progress Report of the Director, Technological Laboratory.*

SUBJECT 32.—*Expiry of period of contract of the Director, Technological Laboratory.*

SUBJECT 23.—*Technological Research—Report of the Technological Research Sub-Committee.*

It was urged that the Committee should not agree to the proposal contained in Subject 13 as expenditure on an investigation of this nature should be met by the trade and not from the cess on cotton which came from the grower.

Against this view it was pointed out that although the cotton cess came from the agriculturists, the Indian textile industry was the biggest consumer of Indian cotton and in this way helped the grower. Further, if mills were helped to produce cloth more cheaply, the benefit would be reaped by the whole country including the agriculturists. The proposed expenditure fell within the scope of the Indian Cotton Cess Act and therefore no objection should be taken to the proposal. Though the proposed expenditure was small and could easily be borne by the mills, the necessary co-operation amongst the millowners to finance such investigations did not unfortunately exist at present.

The general feeling was that the investigation was not one on which the Committee should bear the entire cost. It was accordingly decided that the scheme should be amplified and circulated to all mills for opinion and at the same time enquiry should be made whether they would be prepared to contribute towards the experiment.

The following Resolutions were passed :—

RESOLUTION.—"That the Report of the Director, Technological Laboratory, be approved."

RESOLUTION.—"That the Revised Estimates of the Technological Laboratory for 1938-39 be approved and the Standing Finance Sub-Committee be delegated powers to finally pass the Budget for 1939-40 and send it to the Government of India for sanction."

RESOLUTION.—"That the Report of the Technological Research Sub-Committee be adopted."

SUBJECT 14.—*Need for enhancement of import duty on rayon yarn—Resolution by Lala Shri Ram.*

It was pointed out that during the year 1937-38, very nearly Rs. 8 crores worth of artificial silk yarn and staple fibre had been imported into India. At the price of roughly ten annas a pound of artificial silk yarn, this meant the equivalent of about 3 lakhs of bales of cotton. Artificial silk yarn could not be replacing silk, because at no time were 120 million pounds of real silk used in India; and as it could not be considered to be taking the place of wool, the obvious conclusion was that it was replacing cotton. If the use of cloth made from artificial silk could be stopped, cloth manufactured from cotton would be used, and, to that extent, the surplus cotton in India would be utilised. The duty on one square yard of artificial silk cloth was five annas, and, since one pound of artificial silk yarn was sufficient to give at least 7 square yards of cloth, the duty on cloth woven from imported artificial silk yarn worked out to only about half an anna per square yard. The enhancement of the duty on artificial silk yarn would not hit the hand-loom weaver. During the last discussions with the Japanese, although the representatives of the textile industry took objection to the import of 200 million square yards of artificial silk cloth on the ground that that was detrimental to the interests of the textile industry, no reduction was agreed to because it entailed loss of revenue to Government. It was, therefore, not understood why artificial silk yarn was permitted to be imported at a nominal duty and the question of revenue ignored. There was little doubt that artificial silk yarn industry would, sooner or later, be established in the country, and, if the imports of artificial silk cloth went down in the proportion in which they were doing at present, import duty on artificial silk yarn would have to be raised. The postponement of this step, however, rendered possible the replacement of Indian cotton by artificial silk yarn, fibre and cloth to the tune of over 3 lakhs of bales of cotton. The Committee, representing the interests of the cotton grower, should, therefore, request the Government of India to increase the duty on imported artificial silk yarn to the same level as duty on artificial silk cloth.

In reply it was pointed out that, before a definite statement to the effect that enhancement of the import duty on artificial silk yarn was necessary in the interests of the cotton grower could be made, much more information than was available at present was required. It was also open to doubt whether the hand-loom weaver would not be hit by the raising of the duty.

The following amended resolution was then moved :—

RESOLUTION.—**"That the Indian Central Cotton Committee desires to draw the attention of the Government of India to the serious menace which the import of rayon yarn constitutes to the consumption of Indian cotton, and requests that Government should urgently examine the question of increasing the import duty on rayon."**

It was pointed out that the resolution was only intended to bring to the notice of the Government of India the desirability of examining the subject to which no objection could be taken. The use of artificial silk yarn and staple fibre was unquestionably restricting the use of cotton,

and this was a matter in which the Committee, as guardian of the interests of growers, was concerned. The establishment of the artificial silk industry in the country was still far distant and need not be considered.

The amended resolution was carried.

SUBJECT 15.—*Policy of the Committee with regard to Nuclei Schemes—Reference from the Standing Finance Sub-Committee.*

This subject was considered by the Agricultural Research Sub-Committee which recommended that no change in the present policy of the Committee should be made. The recommendation of the Sub-Committee was accepted.

SUBJECT 16.—*Proposal to publish annual reports of the work done at the various Cotton Experiment Stations in India on the lines of the Progress Reports of Experiment Stations published by the Empire Cotton Growing Corporation—Reference from the last meeting.*

The following recommendation of the Agricultural Research Sub-Committee was adopted :—

" The Sub-Committee recommended that the chapter on ' Cotton ' written by the Secretary, Indian Central Cotton Committee, for Agriculture and Animal Husbandry in India should be expanded and printed as a pamphlet of the Indian Central Cotton Committee yearly as soon as it is ready, and that the assistance offered by Mr. Ramiah for reviewing the portions relating to plant breeding, genetics and cytology should be availed of. If other workers also reviewed the work relating to their own subjects in a comprehensive manner and sent it to the Secretary it should meet the case."

SUBJECT 17.—*Report of the Special Sub-Committee on Root Rot Schemes.*

The Agricultural Research Sub-Committee, at its meeting in July 1938, while considering the Progress Report on the Baroda Root Rot Scheme, recommended that the work done up to that time should be reviewed by a Committee of specialists, mycologists and plant breeders, who should examine the present position and make recommendations regarding the future conduct of the work. The Special Sub-Committee which was appointed met at Lyallpur on the 13th November 1938 and reported as follows :—

" The discussion dealt with the following points :—

(1) Is it proved that the cotton root-rot is caused by certain organisms ? If so, what is their relative responsibility ?

(2) What conditions (*a*) favour,

(*b*) reduce, the attack of these organisms ?

(3) Is it possible to devise any practical means for the elimination or reduction to negligible dimensions of the disease ?

(4) What are the gaps in our knowledge and how are these to be filled ? In other words, on what points are laboratory research and field experiments still required ?

(5) What are the best means of carrying out the requirements of (4) particularly as to technical supervision and co-ordination ?

(1) (*a*) *Rhizoctonia bataticola* is the main causal organism both in the Punjab and in Baroda. The Baroda form produces conidia ; the Punjab form does not. It appears also that the host range of the two forms is different—*Sorghum* being attacked in Baroda but not in the Punjab. Measurements of the sclerotial bodies of the two forms are required.

(*b*) In the Punjab, *Rhizoctonia solani* is also found but is not so common as *Rhizoctonia bataticola*. It is established that these two fungi together have a virulence which is not merely the sum of their two activities. They may differ in the method and speed of their spread in the soil. This requires further study.

(*c*) In Baroda Nematodes have been given considerable prominence as disease producing organisms. Nematodes, however, do not produce root-rot but do their own type of damage. Their association with the fungus appears to be accidental. There appear to be some anomalies as regards the soil temperatures reported and their effects on the mortality due to Nematodes alone and to Nematodes and the fungus acting together. It is reported that Nematodes are also common in the Punjab soils but no particular weight has been given to them in the research. It appears to be desirable to establish both in the Punjab and Baroda the relative incidence of Nematodes, the relative damage done by them and to find some explanation in Baroda of the greatly increased damage which appears to be done when Nematodes and fungi are acting together. It is necessary to get the Nematodes problem settled once for all as it considerably complicates the question of practical field treatment.

(2) In both the Punjab and Baroda, high soil moisture along with high temperatures definitely increases the mortality. The soil moisture figure of 30 per cent. reported in Baroda, which practically amounts to water-logging, is rather astonishing.

(3) In Baroda, under rain-fed conditions, where the practice is to put the seed in the ground before the monsoon breaks, it is not considered feasible to attempt any change of sowing date but in the Punjab, where irrigation water is available, the results obtained to date definitely indicate that early sowing and late sowing (*i.e.*, avoiding the period of maximum mortality) do enable the plant to escape a large amount of infection.

It was stated that it was difficult to make the cultivator change his sowing date and also that cotton root-rot patches occurred in small amounts over fields and could not be treated separately. It was considered, however, undesirable to discard a method with so much promise and an attempt ought to be made to see under what conditions this method of early and late sowing would be a practical method of control.

It was considered highly advisable to lay down in the Punjab an experiment including the following treatments singly and in combination along with a non-treated control variant :—

(*a*) removal of debris,
(*b*) application of farmyard manure,
(*c*) flooding.

This means eight variants in all. In Baroda a similar experiment should be laid down, omitting the flooding variant, *i.e.*, four treatments in all.

The promising effect of growing cotton along with *Sorghum* in the Punjab was reported. Reduction in soil and air temperature in the mixed crop was very definite. Yields were not yet available. The crop had been sown at the optimum date for attack of root-rot, the cotton variety being the *deshi* variety. It was considered that this work should be continued.

It was also considered that the effect of straightforward rogueing of infected plants should be investigated. This is connected with the rate of spread of the fungus concerned about which much is not yet known and which is mentioned under another heading of this report.

The question of rotations was then considered and it was decided that the investigation should be directed to settle the following points :—

(1) Can the causal fungus grow in the soil in the absence of the crop plants ?
(2) If not, how long does it take before it dies in the absence of the host ?
(3) How does it spread in the ground, *i.e.*, can it spread without the host or does it spread through the host roots only ?

This work should be done both in the Punjab and at Baroda. It is understood that in the Punjab the normal rotation brings in cotton once in three years and in Baroda once in two years. The study of causes that are responsible for the absence of the disease in the Ambala district may be taken up with the idea of getting a clue for ameliorative measure.

Breeding.—In the Punjab, a great number of varieties have been tried (*i.e.*, about 120) and not one of them has shown resistance to cotton root-rot. In Baroda, one variety the so-called 'Karakhadi' derived from a resistant plant of local cotton has shown some resistance and is represented by four seedlings which have survived a severe test. For both the Punjab and Baroda it is suggested that there should be a much larger collection representing as many areas as possible both within and outside India and that also there should be a close further search in the Punjab and Baroda for resistant plants.

(4) The answers to the question in point (4) above have been answered in the previous section.

(5) It is not considered that any alterations are needed in the present system of supervision and it is believed that the points in the present programme laid out for both Punjab and Baroda along with the already existing correspondence between the research workers in these two areas would ensure sufficient co-ordination."

The report of the Special Sub-Committee was adopted by the Agricultural Research Sub-Committee which made the following recommendations :—

"The suggestion of Dr. Burns that the services of the Assistant Mycologist in the Punjab should be continued to the end of the sanctioned period of the scheme, *i.e.*, February 1941, was approved.

In connection with the attack of eel worm associated with root-rot in Baroda Mr. Richards said that he did not think that there was any one at present in India who was competent to identify this eel worm. Nor had any work been done to determine whether it was specific to cotton or was merely a common worm associated with rotation, or whether it remained in the soil ready to attack cotton. The eel worm was capable of doing considerable damage and this problem would have to be satisfactorily traced before any useful work could be done. The President said that, in the matter of the identification of the eel worm, the help of the Imperial Bureau of Agricultural Parasitology to which the Imperial Council of Agricultural Research subscribed could be obtained, and that the Imperial Council would give any assistance that might be required in the lay-out of the experiments.

Mr. Roger Thomas' suggestion that *Bajri* should be included in the plan of investigation relating to the effect of growing cotton with *Sorghum* on the attack of root-rot was approved."

The Report of the Agricultural Research Sub-Committee was accepted by the main Committee.

SUBJECT 18.—*Progress Report on Punjab Physiological Scheme.*

This scheme, which was sanctioned in August 1933 for a period of five years, is concerned with the investigation of the causes leading to the partial failure of the cotton crop in the Punjab.

The Agricultural Research Sub-Committee which examined the progress report made the following observations :—

"*Professor Dastur* explained the report and emphasised the fact that he now distinguished between (1) Tirak occurring on heavy land containing Sodium salt and (2) Tirak occurring on sandy soil lacking in nutritive value particularly nitrogen and phosphorus. In the first type the cells of the leaf collapsed, chloroplasts disintegrated and the bearing was reduced. In the second type, starch formed, accumulated in the roots and then in the leaves, followed by tannins. In the first type a tannin-like substance was produced which, however, did not answer to the osmic acid test.

The various items were then dealt with one by one.

Item No. 1.—*Reproduction of Disease.* The full effect of the treatments given, *i.e.*, application of alkali salts on different depths of the soil can only be known at the time of the opening of the bolls but the leaf symptoms of the disease have already been shown to result from the applications of alkali salts.

Item No. 2.—*The relation between the tannins in leaves and the yields.* The time of appearance of the tannins has been determined and full experimental results will be available when the yields have been obtained.

Item No. 3.—Quantitative method for determination of tannins. A colorometric method has been devised using 1% osmic acid with a watery extract of the leaf.

Item No. 4.—Physical and Chemical properties of the soil in the good and bad patches. Patches on the farm of the Agricultural College, where the disease was found to occur in 1935–38, have been mapped out and studied chemically. It was from this study that Prof. Dastur has derived his division of the soils into the two classes already mentioned. In the discussion attention was drawn to the fact that in a bad Tirak year not only such patches were affected but vast areas which did not show Tirak every year, and emphasis was laid on Dr. Mason's remarks that Tirak was due to at least two factors of which one might be a soil factor and the other factors such as climate or White Fly.

Item No. 5.—The mineral uptake of plants in the good and bad patches. This was not discussed.

Item No. 6.—Application of ameliorative measures known to bad patches. The experiment reported had been started in December 1937, *i.e.*, previous to the recommendations of the Sub-Committee which met in January 1938. The results of these experiments will be known when the yields are obtained. The lay-out of the first experiment is defective on account of four blocks having received a different sowing date from the four other blocks. The farmyard manure given contains about 165 lbs. nitrogen which is about three times the amount of nitrogen given in inorganic fertiliser plots. In the second experiment reported all the combinations have not been included as certain of the high-order interactions have been omitted. It is not proposed to repeat the other six experiments but to lay down an experiment on the lines recommended by the Sub-Committee in January 1938 to contain the six combinations there mentioned and to lay down one such experiment on each of the two types of soil mentioned by Prof. Dastur. Treatment No. 2 (gypsum and flooding) will be given in December. The green manure will be berseem and will be sown in December. The artificial fertilisers will be given in two doses one before sowing and one on flowering.

It was noted that though the lay-out of the first experiment was on the split plot design, the splitting of the plots had not been randomised. There were eight plots of which four were treated in one way and the other four in another way. The Sub-Committee felt that this was a subject on which the Statistician of the Imperial Council of Agricultural Research should be asked to give an opinion.

Item No. 7.—To determine the sequence in which the different symptoms of the disease appear in the plant. This was recorded.

Item No. 8.—White Fly and the internal symptoms of disease. Attention was drawn to the fact that exhaustive work on the relationship of White Fly and Tirak had already been done at Khanewal by Mr. Trehan and in those experiments 100 per cent. attack has been induced. It was pointed out that the plants in the experimental cages here appear to be in rather unnatural conditions and it was suggested that this experiment should be repeated if the present indications that White Fly has no effect on the production of Tirak are confirmed by the final results at the time of boll-opening. It was also suggested that the collaboration of the Punjab Government Entomologist might be obtained for this experiment. Mr. Roger Thomas also mentioned the effect of heavy showers on the White Fly and also the timing of the shower. It was also suggested that the Agricultural Meteorological Section of the Meteorological Department might be approached to try and get some data regarding the relationship of timing and violence of rain with White Fly attack."

The Report of the Sub-Committee was adopted.

SUBJECT 19.—*Final Report on Madras Herbaceum Scheme.*

This is one of the earliest schemes of the Committee and was sanctioned in 1923. Its original object was to secure a suitable Uppam (*Gossypium herbaceum*) strain capable of spinning 20's or more counts to replace Karunganni (*Gossypium indicum*) in Salems and Tinnevellies tracts where owing to low and precarious rainfall, Uppam, a more hardy variety than Karunganni, gives better yield in adverse seasons, though in years of good rainfall, the reverse is the case. The difficulty of obtaining suitable Uppam strains by selection was realised in 1930, and it was decided to resort to hybridisation. The scheme terminated on the 31st May 1938.

The results of the investigations carried out on this scheme are as follows :—

(1) Eleven strains in Uppam cotton were isolated. But these were much poorer than Karunganni in Yield and quality.

(2) As the extent of variability in Uppam was found to be very limited, there was little scope for improvement by selection.

(3) Uppam variety is not as drought resistant as it is claimed to be. Its merit lies in affording scope for interspecific hybridisation as a result of which hybrid plants with great vigour, earliness and prolificity are produced.

(4) Herbaceum types grown in other parts of India did not suit the conditions obtaining in the Southern and Central districts of Madras Presidency.

(5) As a result of hybridisation started in 1930, twentynine strains with fineness and lint length equal to Karunganni were isolated. Amongst these, seven strains have excelled the standard Karunganni strain K. I. in yield during the last two seasons.

(6) These strains were found to behave satisfactorily in years of low rainfall.

(7) As a result of off-seasonal study, two strains with higher yield and greater wilt resistance were isolated in Bengal gram. Their seeds are being multiplied and distributed in parts of Coimbatore district.

(8) In addition, fundamental knowledge on the mode of inheritance of pollen and lint colour in cotton and of seed colour, seed size, flower colour, habit, and wilt resistance in Bengal gram and on the origin of lint fuzz was added. These formed the subject of fifteen published papers.

The Agricultural Research Sub-Committee which considered the final report expressed the hope that the Madras Department of Agriculture would continue the tests and development of the varieties which had resulted from the research and that the report would be published as a suitable article in the Indian Journal of Agricultural Science after being edited by Mr. Ramanathan.

The report of the Sub-Committee was adopted.

SUBJECT 20.—*Final Report on United Provinces C. 402 Scheme.*

The scheme for the extension of C. 402 was sanctioned by the Committee in January 1934 for five years and commenced work in May 1935. In August 1936, the Committee considered and sanctioned the proposal of the Director of Agriculture to utilize part of the grant for the extension of C. 520 cotton. The scheme was closed down in February 1938 before the completion of its sanctioned term as it was thought that the area under C. 402 cotton was not likely to expand to the extent that would warrant the Committee to spend further money on it whilst other schemes are being held up.

The final report on the scheme was considered by the Agricultural Research Sub-Committee and it recommended its publication in " Agriculture and Livestock in India."

SUBJECT 21.—*Final Report on the Punjab Pink and Spotted Bollworm Scheme—Reference from the last meeting of the Committee.*

The Agricultural Research Sub-Committee reported on the subject as follows :—

"The Sub-Committee noted that owing to a combination of circumstances the Final Report on the Punjab Pink and Spotted Bollworm Scheme could not be submitted in time for consideration at this meeting of the Committee. Mr. Stewart,

however, informed the Sub-Committee that Dr. Rahman had been asked to submit the report by the 15th February for consideration at the next meeting of the Committee."

The report of the Sub-Committee was adopted.

SUBJECT 24.—*Seed Distribution and Extension Schemes—Proposed extensions of—*

(a) *Sind Scheme.*

Proposals received from the Director of Agriculture, Sind, for the extension of the Sind Seed Distribution and Extension Scheme for a further period of five years were considered by the Agricultural Research Sub-Committee, which reported on them as follows :—

"In view of complaints regarding the quality of present day N. R., the Director of Agriculture, after explaining the three features of the type, agreed to look into the matter.

The Sub-Committee noted the fall in area of 4F-98, reported on page 7 against 1938-39, but were assured that this arose from the decision to restrict this type to the right bank only.

The Sub-Committee considered that the various figures of relative yield, as on pages 6 and 3 (second enclosure), tended to be unrepresentative.

In reference to the actual scheme, the Sub-Committee was of the opinion that, as the amount of help to be given to such seed schemes after 10 years had not been defined by the Committee, consideration should only be given to the proposals so as to complete the first 10 years. It, therefore, recommended the Budget provision proposed plus an annual sum of Rs. 1,890, for the retention of an additional senior assistant, for a period of 2 years, subject to the modifications and adjustments of details pointed out by the Secretary.

The Sub-Committee recommended that it should be made clear that favourable consideration of any proposal for extension of this scheme beyond 10 years would be governed by the prior application of suitable Rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act in Sind."

The Sub-Committee's report was adopted.

(b) *Jarila Scheme.*

Proposals received from the Director of Agriculture, Bombay Presidency, for the extension of the Jarila Cotton Seed Distribution and Extension Scheme in Khandesh for a period of three years were considered by the Agricultural Research Sub-Committee and approved.

(c) *Deccan Canals (Banilla) Scheme.*

The Agricultural Research Sub-Committee considered the proposals put up by the Director of Agriculture, Bombay Presidency, for the extension of the Deccan Canals (Banilla) Cotton Seed Distribution and Extension Scheme for a period of five years and recommended acceptance of the proposals.

The Sub-Committee's recommendation was accepted.

(d) *Surat Scheme.*

The Agricultural Research Sub-Committee considered proposals received from the Director of Agriculture, Bombay Presidency, (*a*) for the extension of the Surat Seed Distribution and Extension Scheme for the extension of 1027 A.L.F., and (*b*) for the Control of Selection 1A

Cotton, for a period of three years. The Sub-Committee's recommendations which were accepted by the full Committee were as follows :—

"This scheme as presented consists of two separate schemes :—

(1) The extension of the Surat Seed Scheme concerned with 1027 A.L.F.

(2) A new scheme, *viz.*, the control of Selection 1A cotton.

In regard to the former, the Sub-Committee recommended, in view of the fact that this scheme had been financed for the past 9 years, that the same be extended for 1 year, the Committee contributing 75% of the cost of staff during that period.

In regard to No. 2, the Sub-Committee recommended that this be treated as a new scheme and that the Indian Central Cotton Committee's contribution should be Rs. 7,272, *viz.*, the cost of staff. It further recommended that this scheme should come into operation only if and after the Government of Bombay have isolated Olpad and part of Chorasi Taluq as stated in the letter from the Director of Agriculture, Bombay, and should continue only so long as this area remains isolated."

SUBJECT 25.—*Research Schemes—Proposed extensions of—*

(*a*) *Punjab Pink and Spotted Bollworm Clean-up Scheme.*

The Agricultural Research Sub-Committee considered a proposal submitted by the Director of Agriculture, Punjab, for the extension of the Punjab Pink and Spotted Bollworm Clean-up Scheme for a period of ten months from 1st April 1939.

The scheme for the Clean-up Campaign against the Spotted Bollworm of cotton in the Punjab, which was an offshoot of the Punjab Pink and Spotted Bollworm Scheme, was sanctioned by the Committee for a period of two years from the 1st April 1937.

The Sub-Committee reported on the proposal as under :—

"The Sub-Committee recommended the extension of this scheme for a period of ten months from 1st April 1939 at a cost of Rs. 12,000. The figure given by Dr. Rahman showed that the incidence of spotted bollworm attack in "Clean-up" areas was less than half of that found outside. By October 15th the incidence of the pest to bolls was over 68% against 149% in the untreated area. This indicates the desirability of completing the clean-up at an earlier date including the removal of sprouting stumps from the area where *toka* instead of *Kudali* was used in order to ensure a sufficient close period. The Sub-Committee considered that the first estimate of relative carry-over should be the examination of the extent of attack by the percentages of seedlings bored by spotted bollworm larvæ.

The Sub-Committee suggested further that yields should be recorded for each picking separately, and the picked cotton analysed for spotted boll-worm damage, from a number of random selected plots each of 1/10 acre scattered over the clean-up area and similarly in the outside villages. For each locality there should be five such plots separated as widely as practicable. This would provide data from 20 plots within and 20 outside the clean-up area.

The Sub-Committee recommended that night caging should be carried out in each of these plots. The practice of last year in caging 50 plants as a unit should be continued at one plot for each centre to preserve continuity. In the remaining 4 plots at each centre only 10 plants per plot need be night-caged. Parallel observations should be taken on equal numbers of uncaged plants."

The report of the Sub-Committee was adopted.

(*b*) *Hyderabad Pink and Spotted Bollworm Scheme.*

The Agricultural Research Sub-Committee considered proposals submitted by the Hyderabad Government for the extension of the Hyderabad

Pink and Spotted Bollworm Scheme for a period of one year, and made the following recommendations :—

"The data submitted showed that in a season of normal climatic conditions no caterpillars which entered the soil prior to February 7th survived to develop into moths during the next monsoon. These observations refer to only one normal season. The Sub-Committee considered that these results require confirmation before advising the State authorities to enforce clean-up measures and strongly recommended an extension of the scheme to March 31st 1940. The Sub-Committee considered that given a normal season this extension would be adequate to provide all the required data.

The programme of work for 1939-40 as detailed under Subject 25(*b*) was approved with the following modifications and additions :—

Item 3.—The data to be obtained from cage and other experiments at Parbhani should be augmented by field observations in the clean-up area by inducing the cultivators in a pure Gaorani 6 tract to remove their cotton plants, if possible, by the end of January or immediately after the last picking. Periodical soil examination for hibernating pink bollworms and subsequent infection and yield data should be obtained from the early and later cleared parts of the clean-up area.

The Sub-Committee further recommended the continuation of observations on the effect of mulching to determine the extent of re-infection by moths emerging from areas the soil of which has been kept under pure mulch until the rains.

Paragraph 4 should read :—

"The effect, on the number of caterpillars going into the resting stage in the soil, of an early grazing of the plants (soon after the final picking) followed by repeated grazing upto the time of removal of the cotton sticks."

The Sub-Committee considered and approved the budget with the exception that item 1 should read "salaries and leave pay" and item 2 Rs. 1,952 should be deleted. It is not necessary to provide leave pay in the current budget as, if leave is delayed, it will fall to be provided in the next year's budget.

It was decided that provision for the scheme be included in the Budget for 1939-40.

The Sub-Committee considered the Secretary's note and recommended :—

(*a*) that the Cotton Entomologist should be in the scale of Rs. 250-25-750;

(*b*) leave pay be excluded from the current budget;

(*c*) Provident Fund provision will be dealt with by the Standing Finance Sub-Committee being governed by the Provident Fund Rules."

The Sub-Committee's report was adopted.

SUBJECT 26.—*Proposed New Research Schemes*—

(a) *Scheme for cultivation of long staple cotton in certain highland areas in Bengal—Reference from the last meeting of the Committee.*

In the absence of proposals from the Director of Agriculture, Bengal, consideration of this subject was postponed.

(b) *Scheme for improvement of Cocanadas cotton in the Madras Presidency.*

The Agricultural Research Sub-Committee considered the proposals from the Government of Madras, for a scheme for the improvement of Cocanadas cotton in the Madras Presidency for a period of five years and five months, and made the following recommendations :—

"The Sub-Committee recommended that the scheme should be sanctioned for five years, subject to review at the end of three years. The Sub-Committee agreed to the inclusion of work on hybridisation which, it was explained, would not entail any

extra expenditure to the Committee and could be carried out simultaneously with the work on other items. It was further decided that provision should be made for the scheme in the Budget for 1939-40. The amount provided for the lease of land should be eliminated. The provision under travelling allowance was raised from Rs. 360 to Rs. 1,000 for the first year (1939-40) and reduced from Rs. 210 to Rs. 200, for each of the remaining years."

The Sub-Committee's recommendations were accepted.

(c) *Scheme for investigating the possibilities of control of the Cotton Stem Weevil of South India.*

At the suggestion of the Indian Central Cotton Committee, the Director of Agriculture, Madras, submitted proposals for investigating the possibilities of controlling the cotton stem weevil in South India for a period of two years. The recommendations of the Agricultural Research Sub-Committee which considered the proposals were as follows :—

"The Sub-Committee considered the proposed programme of work too extensive and beyond the intentions of the Agricultural Research Sub-Committee's recommendations. It recommended that the scheme be extended from April 1st, 1939 to 31st March 1940 with the possibility of requiring a further extension of three months for writing up the report and suggested that the programme should comprise :—

(*a*) Review of work done on Pempheres prior to and during the enquiry.

(*b*) Distribution of the pest to the extent not already done.

(*c*) Examination and record of the relative incidence of the beetle in cotton and in its alternate host plants.

(*d*) Record of the parasites already found to attack pempheres and of those met with during the extension period with their relative incidence on the beetle in different host plants.

BUDGET.

Maintenance of the parasite breeding material not now being required the Sub-Committee recommended that the staff provision be reduced to :—

Entomologist with one clerk, one fieldman and one peon.

The Entomologist to Government, Madras, should be responsible for the general conduct and supervision of the scheme.

The amended budget should be submitted to the Finance Sub-Committee by the Director of Agriculture, Madras. Provisionally the approximate cost of the amended scheme may be taken at Rs. 5,000 for 12 months. It was further decided that provision for this scheme should be made in the Budget of the Committee for 1939-40."

The recommendations of the Sub-Committee were accepted.

(d) *Scheme for investigation into the causes of decline and measures for development of Sind Egyptian and Sind Sea Island Cottons.*

The Director of Agriculture, Sind, submitted proposals covering a period of 5 years, for investigating the causes of decline and the measures for development of Sind Egyptian and Sind Sea Island cottons.

The proposals were considered by the Agricultural Research Sub-Committee which made the following recommendations :—

"The Sub-Committee was unanimously of the opinion that the physiological section of the scheme should be completely left out and that attention should be concentrated on the breeding work along with a certain amount of agronomic work such as testing of different sowing dates, spacing, sowing on ridges, etc.

Mr. Roger Thomas said that the possible cause of bad yields might be due to the Sind conditions being agronomically unlike those in Egypt and that it was possible the Stem Borer might also be a contributing factor.

It was considered that one officer of class II was sufficient to look after the reduced scheme and certain other reductions in cost were also suggested which are embodied in the revised budget. The total cost of the scheme for five years now comes to Rs. 59,711.

Mr. Roger Thomas considered that the scheme should provide for trials in all the three zones in Sind. The Sub-Committee considered that in the breeding programme there should be an attempt to collect new material from a much wider range of places, since apparently the possibilities of the already imported Egyptian and Sea Island varieties have been exhausted.

The Agricultural Research Sub-Committee, after some discussion, decided that for the successful working of this scheme, it was essential to have a competent Cotton Botanist, who had had experience in the breeding and growing of Egyptian and Sea Island cottons, and that the scheme should be revised in the light of the discussion at the meeting and proposals put up at the March meeting of the Committee. It was further suggested that the revised proposals should be sent to the President and Dr. Burns well in advance of the meeting for suggestions."

The recommendations of the Sub-Committee were adopted.

SUBJECT 27.—*Proposed New Seed Distribution and Extension Schemes—Madras Co. 2 Scheme.*

Proposals for a scheme for the distribution of Co. 2 (Cambodia) cotton seed in the Salem district for a period of 4 years and 5 months, forwarded by the Madras Government, were considered by the Agricultural Research Sub-Committee, which reported as follows :—

" After discussion, the Sub-Committee recommended the scheme for acceptance. It is an attempt to distribute Co. 2 seeds in Salem district (contiguous with Coimbatore) where a five-year successful seed scheme was financed by the Indian Central Cotton Committee during the last five years. It was recommended that this scheme should be treated as an extension scheme and not as a new scheme."

The Sub-Committee's report was adopted.

SUBJECT 28.—*Report of the Agricultural Research Sub-Committee.*

The following resolution was carried :—

RESOLUTION.—" That the Report of the Agricultural Research Sub-Committee, as now amended, be adopted."

SUBJECT 29.—*Periodical review of the state of foreign trade in Indian cottons—Supply of copies of—.*

It was decided that a copy of the monthly review should be supplied free to all cotton textile mills on request.

SUBJECT 30.—*Proposal for co-ordination of research on Black-headed Cricket in Sind and Baluchistan—Reference from the Government of India.*

The following Report of the Agricultural Research Sub-Committee was adopted :—

" The Sub-Committee approved the proposal contained in the Secretary's note and suggested that the proposals of the Chief Commissioner in Baluchistan if received in time should be submitted for the consideration of the Committee at its meeting in March 1939."

SUBJECT 31.—*Proposed deputation of Mr. K. Ramiah, Geneticist and Botanist, Institute of Plant Industry, Indore, to England Letter from the Offg. Secretary to the Board of Governors of the Institute.*

The report of the Agricultural Research Sub-Committee recommending the deputation was accepted.

SUBJECT 33.—*Proposal for award of prizes to cultivators for high yield of cotton per acre—Letter from Mr. M. B. Patel, Member, Indian Central Cotton Committee.*

The following resolution which was moved was declared lost for want of a seconder :—

" That prizes should be awarded to cultivators in different cotton zones for obtaining highest yield of cotton per acre as was done in case of sugarcane by a commercial association few years ago."

SUBJECT 34.—*Final Report on the Sind Physiological Scheme.*

The Sind Physiological Scheme was started in July 1927 with the object of ascertaining the optimum sowing time and the irrigational and manurial requirements of cotton under irrigated conditions in Sind. The scheme terminated in June 1937. The final report on the scheme as condensed and edited by Dr. Sankaran was considered by the Agricultural Research Sub-Committee which reported on it as follows :—

" Attention was drawn to the comments contained on pages 3 to 7 of the preface and to the " Summary and Conclusions " on pages 59 to 60. The Sub-Committee recognised the serious defects that had existed in the methods employed in carrying out certain of the experiments and the generalisations that had previously been made on inadequate data. The work carried out, however, definitely showed :—

(1) the importance of early sowing in Sind—a conclusion confirmed by the independent work of the then Botanist—Rao Sahib K. I. Thadani, and

(2) the definite advantages of the so-called declinary system of watering.

The conclusions regarding the amount and time of nitrogen manuring were considered to be conflicting. It was proposed that two short papers should be written jointly by Mr. Dabral and Dr. Sankaran—one dealing with the experiments on time of sowing and the other dealing with experiments on the declinary system, and that these should be separately published in the Indian Journal of Agricultural Science. There was no objection to the Sind Government seeing these before they were published. It was not proposed to publish the full revised report. The Sub-Committee desired to commend Dr. Sankaran for the conciseness and thoroughness of his work and for having carried it out in the comparatively short space of 4½ months."

The report of the Sub-Committee was adopted by the main Committee.

SUBJECT 35.—*Proposed deputation of an agricultural officer to study the development of cultivation, ginning and marketing of long stapled cottons in Egypt, Sudan and America.*

The Committee accepted the recommendation of the Agricultural Research Sub-Committee that the proposal for deputation should not be agreed to.

SUBJECT 36.—*Punjab Agricultural Produce Markets Bill.*

It was pointed out that the object of the Bill was to enable the grower to get a proper price for his produce and to protect him from being subjected to various malpractices and unjustifiable reductions when he

took his produce to the market. In so far as the main principles of the Bill were concerned, all sections of the legislature were agreed that there should be a Bill to minimise the malpractices in the market areas. The two points on which there was a certain amount of controversy were (1) the composition of market committees and the method of appointing members of these committees and (2) the question of fees for licensing. The hope was expressed, however, that the difficulties mentioned would be overcome and that the Bill would pass into law shortly.

Satisfaction was expressed that the Punjab had now found a means of giving effect to a long standing recommendation of the Committee regarding cotton markets.

SUBJECT 37.—*Summary of Proceedings of the Local Sub-Committee.*

A suggestion was made that the Bombay and Karachi Cotton Associations should be asked to conduct business on the basis of the universal standards. It was pointed out that a request to this effect had already been made to the Association concerned.

SUBJECT 38.—*Morning Broadcast of cotton prices—Letter from the Controller of Broadcasting.*

The view was expressed that as the Committee had originally accepted the proposal on the understanding that its share of expenditure in connection with the experiment would be limited to Rs. 5,000 or the cost of 12 receiving sets, whichever was less, it should not now be called upon to meet charges for the supervision or maintenance of the sets. The need for supervision by a Central Government authority for the satisfactory working of the experiment was emphasised, but the general opinion was that the expenditure on this account should not be a charge on the Committee.

It was decided that the Committee's views should be communicated to the Government of India.

SUBJECT 39.—*Policy of the Committee with regard to Seed Distribution and Extension Schemes—Reference from the Standing Finance Sub-Committee.*

The Agricultural Research Sub-Committee which considered this subject reported as follows :—

"The Sub-Committee did not consider that any change in the existing policy of the Committee as adopted in 1937 was called for. The Sub-Committee, however, was of the opinion that after ten years if an extension of a seed distribution scheme was necessary, it should be possible to substantially reduce the assistance given by the Indian Central Cotton Committee.

The Sub-Committee recommended that when an application was made for seed distribution schemes or an extension of the same, the quantity to be distributed and the area to be covered by such seed should be specified for each year of the scheme.

The Sub-Committee did not consider that it was possible to lay down any uniform standard of pay as applicable in all provinces and States.

The following resolution moved by Mr. Roger Thomas regarding the future policy to be adopted in connection with seed distribution schemes was discussed and it was decided that the resolution with its enclosure, together with the recommendations of the Sectional Sub-Committee should be circulated to the members of the Committee, and that it should come up for detailed consideration at the next meeting of the Committee :—

" The Agricultural Research Sub-Committee, recommends that, in so far as may be practicable, in future Reports to be prepared on the Committee's

Research Schemes wherein are shown the comparative values of cotton, data in the form prescribed below should be incorporated in the Report for each new variety or varieties recommended for general distribution and also for the commercial crop, the replacement of which is contemplated."

Variety.	Average yield *kapas* per acre (X years) (Y replications) (Z randomised plots.)	Average staple length (X years) (Y tests).	Average spinning qualities (X years) (Y tests).	Average ginning % (X years) (Y samples of 100 lbs.)	Average value of lint per cental (100 lbs.) (X years) (Y valuations.)	Average value of seed per cental (X years) (Y valuations.)	Average value of *kapas* per cental (calculated from columns 5, 6 & 7).	Average cash value per acre (calculated from columns 2 & 8).	Statistical significance of cash value.
1	2	3	4	5	6	7	8	9	10

The Report of the Sub-Committee was adopted.

SUBJECT 40.—*Final Report on Hyderabad Pink and Spotted Bollworm Scheme.*

This scheme was sanctioned by the Committee in 1933 for a period of three years and came into operation on the 1st June 1933. It was extended for varying periods from time to time, the last extension being granted up to March 1939. A report covering the period 1932-37 was considered by the Agricultural Research Sub-Committee whose recommendations are given below :—

"It was noted that of the modes of carry-over hibernation in the seed was negligible; carry-over in unginned *kapas* could be eliminated by completion of ginning by April 30th; short cycle generations cannot continue in any significant quantity in May and June and that consequently the most important factor in the Hyderabad State may be the hibernation of caterpillars in the soil.

The data submitted showed that in a season of normal climatic conditions no caterpillars which entered the soil prior to February 7th survived to develop into moths during the next monsoon. These observations refer to only one normal season. The Sub-Committee considered that these results require confirmation before advising the State authorities to enforce clean-up measures and strongly recommend an extension of the scheme to March 31st 1940. The Sub-Committee considered that given a normal season this extension would be adequate to provide all the required data.

The Sub-Committee recommended that final publication of the report should await incorporation of the soil work. As most of the work is complete, the report, as it stands, should be referred as early as possible to Dr. U. S. Sharga, Assistant Professor of Entomology, United Provinces, and to Dr. K. A. Rahman, Entomologist to Government, Punjab, for opinion in succession."

The report of the Sub-Committee was adopted.

SUBJECT 41.—*Proposal for the appointment of a Scientific Adviser on the staff of the Committee—Resolution by Mr. Roger Thomas.*

The Agricultural Research Sub-Committee which considered this subject reported on it as follows :—

"Mr. Roger Thomas moved:—

"That a Scientific Adviser be appointed on the staff of the Committee."

The Sub-Committee did not consider that there was any need to appoint an additional officer on the staff of the Committee as the Secretary was the proper officer to undertake the work contemplated in Mr. Thomas' resolution. It was explained that it was for this reason that it has been decided that the Secretary should be a senoir technical man of experience. It was, however, agreed that the Secretary should be able to go round and visit the schemes as often as possible and gain information by moving amongst the research workers and pass on such information as he may consider to be of importance to other workers. For this purpose it was necessary that he should be relieved of a considerable part of his routine administrative work which, at present, rendered it difficult for him to be absent from headquarters.

The Sub-Committee was further of the opinion that it was very desirable to appoint Special Sub-Committees from time to time for special schemes as was done in the case of the Indore Institute and Cotton Root Rot Schemes.

The President suggested that if at any time the Secretary or any other worker felt the need of special scientific advice on a certain subject or piece of research, the Committee might consider the matter and request the Imperial Council of Agricultural Research to loan a specialist who could do that work."

It was stated that the object of the Resolution was the better utilisation of the funds of the Committee as it was felt that a greater degree of guidance in research work would yield better results. Emphasis was also laid on the desirability of the Secretary undertaking more touring for the inspection of schemes.

Reference was also made to the desirability of making the Sectional Sub-Committees of the Agricultural Research Sub-Committee permanent. The difficulties connected with this suggestion were pointed out, and it was stated that, as far as possible, efforts were made to make the personnel of the Sectional Sub-Committees as permanent as possible.

The Report of the Agricultural Research Sub-Committee was adopted.

D. N. MAHTA,
Secretary.

RESOLUTIONS.

No.

1. "That Sir Chunilal V. Mehta be re-elected Vice-President of the Indian Central Cotton Committee for the year 1939-40."

Standing Finance Sub-Committee.

2. "That the following members be appointed to form the Standing Finance Sub-Committee for the financial year 1939-40 :—

The Vice-President (*Chairman*),
The President (*ex-officio*),
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,
Mr. W. J. Jenkins,
Rao Bahadur Sir Madhaorao Despande,
Mr. M. S. Durutti, and
Mr. J. L. Hurschler."

Cotton Ginning and Pressing Factories Sub-Committee.

3. "That the following members be appointed to form the Cotton Ginning and Pressing Factories Sub-Commmittee :—

The Vice-President,
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,
Mr. M. S. Durutti,
Mr. J. L. Hurschler,
Sir William Roberts,
Mr. W. J. Jenkins,
Mr. J. Tinker,
Mr. P. V. Deshmukh,
Mr. J. Nuttall,
The Co-operative Banking Representative (*ex-officio*),
Mr. Chellaram Shewaram."

Local Sub-Committee.

4. "That the following members be appointed to compose the Local Sub-Committee :—

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,

RESOLUTIONS—(*contd.*)

No.

Mr. Kasturbhai Lalbhai,
Rao Bahadur Sir Madhaorao Deshpande,
Mr. J. L. Hurschler,
Mr. M. S. Durutti,
Mr. Chandulal P. Parikh,
Mr. W. J. Jenkins,
Mr. A. P. Darlow,
Sardar Rao Bahadur Bhimbhai R. Naik."

Agricultural Research Sub-Committee.

5. "That the following members be appointed to form the Agricultural Research Sub-Committee :—

I. The President (*ex-officio*),

II. The Vice-President (*ex-officio*),

III. The Co-operative Banking Representative (*ex-officio*),

IV. *Cotton Growers' Representatives :—*
Sir William Roberts,
Rao Bahadur Sir Madhaorao Deshpande,
Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
Mr. Roger Thomas.

V. *Cotton Trade Representatives :—*
Sir Purshotamdas Thakurdas,
Mr. Kasturbhai Lalbhai,
Mr. Chandulal P. Parikh,
Mr. D. K. Kane.

VI. *Agricultural Officers :—*
The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),
Mr. H. R. Stewart,
Mr. W. J. Jenkins,
Mr. P. B. Richards,
Mr. P. H. Rama Reddi,
Mr. J. C. McDougall,
Mr. R. G. Allan,
The Director, Institute of Plant Industry, Indore (*ex-officio*),
Rao Saheb K. I. Thadani,
Mr. Nizam-ud Din Hyder,

RESOLUTIONS—(*contd.*)

No.

Mr. V. Ramanatha Ayyar,
Dr. V. K. Badami,
Sardar D. K. Jadhav,
Dr. B. L. Sethi.

VII. *Additional members :—*

Dewan Bahadur Sir T. Vijayaraghavacharya,
Mr. Chellaram Shewaram,
Mr. Mohammad Afzal,
Mr. K. Ramiah,
Rai Saheb Kalidas Sawhney,
Professor R. H. Dastur.

VIII. The Secretary."

Technological Research Sub-Committee.

6. "That the following members form the Technological Research Sub-Committee :—

The President,
The Vice-President,
The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),
Sir Purshotamdas Thakurdas,
Dewan Bahadur Sir T. Vijayaraghavacharya,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,
Lala Shri Ram,
Mr. H. R. Stewart,
Mr. W. J. Jenkins,
Mr. P. H. Rama Reddi,
Mr. Chandulal P. Parikh,
Mr. M. S. Durutti,
Mr. J. Tinker,
Mr. J. L. Hurschler,
Mr. P. V. Deshmukh,
Mr. E. F. G. Gilmore,
Dr. Nazir Ahmad,
Dr. B. L. Sethi.

RESOLUTIONS—(*contd.*)

No.

Additional members :—

Two representatives each nominated by :—

The Bombay Millowners' Association,

The Ahmedabad Millowners' Association,

The East India Cotton Association, and

One representative nominated by the Karachi Cotton Association, Ltd."

Research Students Selection Sub-Committee.

7. "That the Research Students Selection Sub-Committee be composed of :—

The President,

The Vice-President,

Sir Purshotamdas Thakurdas,

Dewan Bahadur Sir T. Vijayaraghavacharya,

Mr. Kasturbhai Lalbhai,

Dr. W. Burns,

Mr. P. B. Richards,

Mr. H. R. Stewart,

Mr. W. J. Jenkins,

Mr. P. H. Rama Reddi,

Mr. J. C. McDougall,

Rao Saheb K. I. Thadani,

Mr. R. G. Allan,

Mr. T. R. Low,

Mr. Nizam-ud Din Hyder,

Dr. V. K. Badami,

Dr. Nazir Ahmad,

Mr. K. Ramiah,

Seth Isserdas Varindmal, and

The Secretary."

Cotton Forecast Improvement Sub-Committee.

8. "That the Cotton Forecast Improvement Sub-Committee be composed of the following :—

The President (*ex-officio*),

The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),

The Director-General of Commercial Intelligence and Statistics,

RESOLUTIONS—(*contd.*)

No.

The Director of Agriculture, Bombay Presidency,
Do. do. Punjab,
Do. do. Madras,
Do. do. United Provinces,
Do. do. Central Provinces and Berar,
Do. do. Sind,
Do. do. H. E. H. the Nizam's Government,
The Commissioner of Agriculture, Baroda,
The Director of Statistics, H. E. H. the Nizam's Government,
The Director of Land Records, Central Provinces and Berar,
The Deputy Director of Statistics, Department of Commercial Intelligence and Statistics,
The Statistical Officer to the Director of Industries, Madras,
Mr. J. L. Hurschler,
Dr. T. E. Gregory.

Wider Markets Sub-Committee.

9. "That the Wider Markets Sub-Committee be composed of the following :—

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Dewan Bahadur Sir T. Vijayaraghavacharya,
Dr. John Matthai,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,
Dr. W. Burns,
Dr. T. E. Gregory,
Mr. H. R. Stewart,
Mr. P. B. Richards,
Mr. W. J. Jenkins,
Sir William Roberts,
Mr. P. H. Rama Reddi,
Mr. J. C. McDougall,
Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
Mr. Chandulal P. Parikh,

RESOLUTIONS—(*contd.*)

No.

Mr. J. L. Hurschler,
Mr. M. S. Durutti,
Seth Isserdas Varindmal,
Rao Saheb K. I. Thadani,
Mr. Nizam-ud Din Hyder,
Mr. P. V. Deshmukh,
Mr. Balak Ram,
Mr. Jamshed Nusserwanji,
Dr. Nazir Ahmad,
Mr. R. G. Saraiya—additional member."

10. "That the Indian Central Cotton Committee desires to draw the attention of the Government of India to the serious menace which the import of rayon yarn constitutes to the consumption of Indian cotton, and requests that Government should urgently examine the question of increasing the import duty on rayon."

Report of the Agricultural Research Sub-Committee.

11. "That the Report of the Agricultural Research Sub-Committee, as now amended, be adopted."

Report of the Standing Finance Sub-Committee.

12. "That the Report of the Standing Finance Sub-Committee be adopted."

"That the Revised Estimates for 1938-39 be approved."

"That Messrs. S. B. Billmoria & Co., be re-appointed Auditors for the year 1939-40 on a remuneration of Rs. 750."

13. "That the Budget proposals for 1939-40 made by the Standing Finance Sub-Committee be approved and that the Sub-Committee be authorised to include in the Budget necessary provision for the schemes passed at this meeting of the Committee and to submit the Budget to the Government of India."

Licensing of ginning and pressing factories in the Punjab.

14. "The Indian Central Cotton Committee welcomes the assurance given by the Hon'ble Minister for Development that he is personally satisfied that it is desirable to prevent the mixing of short staple with long staple cotton and that though he cannot commit himself he will invite the Punjab Government to give early consideration to the introduction of the licensing of gins and presses in order to stop the mixing of Punjab American cotton as the Committee is convinced that this step is in the best interests of cotton production in the Punjab and India as a whole."

RESOLUTIONS—(*concld.*)

No.

Application of the Cotton Transport Act to the Punjab.

15. "The Indian Central Cotton Committee notes the difficulties of the Punjab Government in applying the Cotton Transport Act to the Punjab under the existing conditions. The Committee, however, requests the Punjab Government to examine the imports of short staple *kapas* by rail into areas growing long stapled cotton with a view to persuade the North-Western Railway not to give wagons for carriage of *kapas* without a license being procured by importers of such cottons from the Agricultural Department of the Punjab Government."

Report of the Director, Technological Laboratory.

16. "That the Report of the Director, Technological Laboratory, be approved."

17. "That the Revised Estimates of the Technological Laboratory for 1938-39 be approved and the Standing Finance Sub-Committee be delegated powers to finally pass the Budget for 1939-40 and send it to the Government of India for sanction."

Report of the Technological Research Sub-Committee.

18. "That the Report of the Technological Research Sub-Committee be adopted."

APPENDIX I.

SUBJECT 4.—*Summary of Report of the Standing Finance Sub-Committee :—*

(*a*) Balance Sheet,
(*b*) Financial Statement,
(*c*) Revised Estimates, 1938-39,
(*d*) Budget, 1939-40,
(*e*) Auditors' Fees.

Three meetings of the Sub-Committee were held since the last meeting of the Committee in July 1938. Mr. Vonesch having resigned, his place on the Sub-Committee was taken by Mr. J. Hurschler, who succeeded him on the Committee.

The Sub-Committee considered as unduly excessive the charges made by the Imperial Bank of India, Bombay, on account of interest on temporary overdrafts and commission in connection with the purchase, sale or transfer of securities, and decided that the Bank should be requested to reduce them. The Vice-President was requested to take up the matter with the Managing Director of the Imperial Bank and after some correspondence, reasonable terms were obtained.

In accordance with the new procedure laid down by the Committee at its meeting held in July last, the Sub-Committee considered the new schemes and extensions of old schemes as recommended by the Agricultural Research Sub-Committee and provisionally approved by the full Committee at its last meeting and sanctioned them with certain modifications in respect of one Scheme.

The Sub-Committee considered a request from the Deputy Director of Agriculture, Bangalore, for the training in Statistics of one of the assistants working in the Mysore (Doddahathi) Scheme, at the Institute of Plant Industry, Indore, and decided that as there were no savings anticipated under the scheme in the current financial year, the proposal should be put up for consideration at the next meeting of the Committee.

The Sub-Committee sanctioned an additional honorarium of Rs. 250 to Dr. R. Sankaran to meet his travelling expenses to Sind in connection with the editing of the Final Report on the Sind Physiological Scheme. The total amount sanctioned for the editing of the Report thus amounts to Rs. 1,750.

The Sub-Committee sanctioned the purchase of apparatus at a cost not exceeding Rs. 300, for Mr. P. Abraham, who has been awarded a training grant for special training in the latest methods of cytological work.

The Sub-Committee at its meeting held in January 1938, after considering the audit reports for 1935 of the Hubli and Gadag Co-operative Cotton Sale Societies, passed the following resolution :—

> "The Sub-Committee is of the opinion that the state of affairs brought out in the audit reports is extremely unsatisfactory. The Director of Agriculture, Bombay, should be requested to take steps to recover the money due to the Committee by the Hubli and Gadag Societies, and if no satisfactory way is shown within a reasonable time, the matter should be placed before the full Committee for consideration whether further assistance to these Societies should not be stopped in the first instance and necessary steps taken to recover the amounts outstanding."

The full Committee at its meeting held in the same month, while considering the above resolution, agreed to the suggestion that the Director of Agriculture, Bombay Presidency, should take up the matter with the Registrar of Co-operative Societies, Bombay. The Gadag Society has since repaid in full its debt amounting to Rs. 3,514-11-2, but the Hubli Society desires that certain items of expenditure amounting to Rs. 1,394, disallowed by the Committee, should be re-instated and is willing to pay the profits of Rs. 2,692-12-4 made during the year 1935 towards liquidation of the recoverable loan of Rs. 6,966-2-0 after deducting the sum of Rs. 1,394. The Sub-Committee approved of the suggestion that the Committee should report the case officially to the Government of Bombay and request their intervention in the matter of recovering the balance of the loan due from the Hubli Society.

The full Committee at its meeting in January last approved of the recommendation of the Cotton Forecast Improvement Sub-Committee that the Director of Agriculture, Punjab, should be asked to investigate the extent of the consumption of cotton for domestic purposes in the towns in the Punjab as it was felt that the figure obtained from the investigations already carried out was too high. The

Sub-Committee at its meeting on the 20th August 1938 considered the proposals forwarded by the Director of Agriculture, Punjab, involving an expenditure of Rs. 1,700, and authorised the Secretary to sanction the expenditure from the savings of previous years under the budget head " Statistical Research " after ascertaining from the Director of Agriculture if the enquiry could be efficiently conducted during the current year, since it was intended to avail of the services of three Assistants of the Punjab Agricultural College during their vacation from July to September. As the Director of Agriculture replied in the negative, the investigation has not been started.

The Sub-Committee considered the question of meeting the incidental charges in connection with the proposed installation of receiving sets at selected markets for the morning broadcast of cotton prices. Out of the 11 markets selected, the authorities in charge of seven agreed to meet the incidental charges estimated by the Controller of Broadcasting at Rs. 10 per mensem per set, and the Sub-Committee decided that receivers should be installed at those markets which were prepared to meet the incidental charges and that the authorities in charge of the remaining markets should be requested that it was very desirable, in the interests of the scheme, that they too should fall in line with the other markets. As a result the market authorities of Bailhongal and Athani have agreed to meet the incidental charges. It was also decided that the Controller of the Broadcasting Department should be informed that for the successful working of the experiment it was essential that the Broadcasting Department should itself be responsible for the maintenance of the sets. The reply of the Controller of Broadcasting in this connection stating that in the event of his Department being responsible for the maintenance and supervision of the sets, the Committee would have to bear a recurring expenditure of about Rs. 815 per mensem, was considered by the Sub-Committee at its meeting held on the 28th October 1938, and it was decided that the matter should be reported to the full Committee with the recommendation that the Sub-Committee was not in favour of the Committee bearing the expenditure suggested by the Controller of Broadcasting, and that the original arrangement with the Department in accordance with which the liability of the Committee in respect of the proposed experiment was to have been limited to Rs. 5,000 should be adhered to.

The Sub-Committee approved of the suggestion of the Director, Technological Laboratory, to circulate to the cotton mills and trade organisations a note under the joint authority of the Indian Central Cotton Committee and the Mill-owners' Associations of Bombay and Ahmedabad regarding the establishment of a " Testing House " at the Technological Laboratory.

The Committee at its meeting held in March 1937 sanctioned the purchase of two conditioning ovens, one for Bombay and the other for the Central Provinces and Berar, for testing the moisture content of cotton at a cost of Rs. 1,650 each. The Sub-Committee sanctioned an additional sum of Rs. 210-6-0 to meet the charges for fitting up the conditioning oven in the Agricultural Research Institute Building at Nagpur.

The Vice-President reviewed the financial position of the Institute of Plant Industry, Indore, as revealed at the meeting of the Board of Governors held in October 1938. The Sub-Committee noted that the contributions from the States were falling off and that some of the States had also given notice of resigning from the Institute. At the meeting of the Board of Governors it had been pointed out that the expenditure of Rs. 57,094 on administration out of a total expenditure of Rs. 1,66,500 was too high and in view of the critical financial position of the Institute, it had been suggested that the Director of the Institute should make efforts to get some of the bigger States including Gwalior and Bhopal to join the Institute. The Sub-Committee noted that the President of the Board of Governors fully appreciated the Committee's point of view and that at his suggestion it had been decided that the question of the Committee's grant to the Institute should be re-examined after one more year.

The Sub-Committee at its meeting held on the 28th October 1938 decided that Messrs. S. B. Billimoria & Co. should be re-appointed the Committee's auditors for the year 1939-40 and that a fee of Rs. 750 should be paid to them for this work.

A Balance Sheet of the audited accounts of the Committee's funds and the Provident Fund as on the 30th September 1938 and also the Financial Statement as on the 30th September 1938 are attached* for information. Rs.14,03,416-12-2

* Not printed.

of the Committee's securities are invested in Government paper and Rs. 5,60,490-10-0 in long dated Corporation Bonds. The market value of the Committee's securities as will be seen from the financial statement has appreciated by Rs. 4,37,233-4-10. To finance all the schemes at present in operation it will be necessary to sell some of the securities.

The draft Budget for 1939-40 is also attached* for approval. The estimates of receipts from the cotton cess have been shown at the same figures as last year, *viz.*, Rs. 6,50,000. Interest has been reduced from Rs. 1,02,000 to Rs. 92,320 as some of the securities will have to be sold to meet current expenditure. The Budget will need revision when final decisions are arrived at on some of the proposals under consideration at this meeting of the Committee. The profits that might be realised on sale of securities have not been taken into account in arriving at the above estimates.

Revised Estimates* of Receipts and Expenditure for the current financial year are submitted for approval. The estimate of receipts from the cess, interest and miscellaneous receipts have been retained at Rs. 6,50,000, Rs. 1,02,000 and Rs. 4,000, respectively. The total expenditure for the current year is now estimated at Rs. 11,59,231 against Rs. 11,61,252 in January last. The closing balance (excluding recoverable loan amounting to Rs. 6,966-2-0) at the end of the current year will stand at Rs. 17,00,987-3-8 as compared with Rs. 21,00,703-8-6 at the end of last year.

The Sub-Committee renewed the arrangements with the Imperial Bank of India to obtain an overdraft on current account for a further period of 6 months from 1st January 1939 to the extent of a lakh of Rupees when required against security of Government Paper lodged with the Bank.

APPENDIX II.

SUBJECT 11.—*Present position of cotton—Regulation of area under cotton in India.*

Secretary's Note.

The question of adjusting the cotton area to probable demand has been raised from time to time during the present slump in prices of cotton. The Local Sub-Committee discussed this point on three occasions in connection with the subject of the present position of cotton in India and as a result of its deliberations, recommendation has been made to the Agricultural Departments to discourage the growing of cotton on marginal lands where the yields are poor and cotton growing relatively unproductive. The general opinion of the Sub-Committee was that the remedy for the present low prices of cotton did not lie in a general curtailment of the area under cotton, as such a policy was fraught with danger of India losing her export market for cotton and might prove detrimental to the interests of the cultivator and the country's national economy. Apart from that, the Sub-Committee held the view that restriction of cotton cultivation in India alone had limited application in the direction of raising prices, as only world-wide restriction could bring about tangible results. As the subject is one of utmost importance, it is desirable that the full Committee should now consider the general question as to whether the Committee should make any general recommendations to Agricultural Departments in regard to the regulation of the cotton area.

In this note the question is dealt with from two aspects, *viz.*, (1) limitation of cotton cultivation and (2) better apportionment of the acreage among long, medium and short staple varieties, *i.e.*, a better balancing of types.

(1) *Limitation of cotton cultivation.*

(*a*) *General.*—The question of a general curtailment of the area under cotton was considered by the Local Sub-Committee at its meetings held on the 11th March and 28th April 1938. The views of the Sub-Committee are contained in the attached letter (Enclosure I) copy of which was forwarded to all Provincial Governments and some Indian States. For reasons stated in this letter, the Sub-Committee considered that a general restriction scheme would not ultimately benefit the cultivator. Apart from the arguments against any general cotton restriction scheme in India, as set forth in Enclosure I, it should not be overlooked that, due to the operation of the economic law of supply and demand, the cotton area in India,

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* Not printed.

though subject to seasonal variations due to climatic causes, reacts pretty closely to changes in prices of cotton. This will be seen from the following table which covers the last ten years :—

Crop year.	Area in thousand acres.	Average Bombay price per khandy of 784 lbs. (F.G.M.G. Broach). Rs.
1926–27	24,522	300
1927–28	24,761	384
1928–29	27,053	346
1929–30	25,922	273
1930–31	23,812	188
1931–32	23,722	187
1932–33	22,483	200
1933–34	24,137	200
1934–35	23,972	232
1935–36	25,962	212
1936–37	25,148	222
1937–38	25,583*	..

* Excludes Burma.

It will be observed that the rise in prices from Rs. 300 in 1926-27 to Rs. 384 in 1927-28 was followed by a sharp increase in acreage from 24,761,000 acres in 1927-28 to 27,053,000 in 1928-29. Similarly, the price level of Rs. 187 in 1931-32, the lowest during the decade ending 1936-37, reacted on the acreage in the succeeding year, bringing it down to 22,483,000, the lowest during the decade. It is noteworthy that the fluctuation in the cotton acreage amounted to no less than five million acres during the decade without any Government propaganda for the curtailment of the area.

(*b*) *Curtailment of cotton cultivation on marginal lands* :—As will be seen from Enclosure I, the Local Sub-Committee expressed the view that any scope for restriction of cotton acreage should be looked for in marginal lands where cotton cultivation is relatively unremunerative, and which might with advantage be diverted to food or fodder crops. The Sub-Committee, however, realised that it would not be an easy thing to induce the cultivator to change over from a money crop to a food crop. Since the Provincial Departments of Agriculture are in the best position to survey such lands and suggest alternative crops, the Provincial Governments and some Indian States have been asked to give this aspect of the question due consideration. The attached tables (Enclosures II and III), give the acreage and yields per acre according to varieties during the ten years ending 1937-38. It would be for each Department of Agriculture to study marginal areas, especially those where the yield is low and the cost of production per acre relatively high.

The return from cotton alone as compared to its cost of production is not, however, the only consideration to be taken into account in this connection, as by far the most important, if not the determining factor, is the gross return from cotton as compared to other possible crops. As an illustration it may be mentioned that while in the United Provinces, the net area sown with all crops was about the same both in 1914-15 and 1934-35, the area under cotton decreased from about 1½ million acres in 1914-15 to about seven lakhs acres in 1934-35, although the yield per acre of cotton in the Province has been relatively higher and steadier than in most other Provinces. The probable inference is that the cultivator in the United Provinces has to some extent changed over from cotton to other more profitable crops during this period.

The survey of marginal lands under cotton and the question of recommending alternative crops for such lands are matters calling for detailed study by the Provincial Governments concerned. A careful study of the reports giving the results of the enquiry into the cost of production of crops in the principal cotton and sugarcane tracts, jointly financed by the Imperial Council of Agricultural Research and this Committee, which give the cost of production per acre in detail and the prices realised, should give definite indications of areas which need special examination.

Another important point which merits renewed consideration is the possibility of raising the efficiency of cotton cultivation. Varietal improvement constitutes an important means of improving both quality and yield and on this much work has been done through schemes financed by the Indian Central Cotton Committee. It appears, however, that sufficient attention has not been paid to the study of soil and manurial factors. For example, the yield per acre is relatively low in the Kumpta, Northerns and Westerns tracts, and these might repay fresh study from this standpoint. As the following table indicates, there appears to be a considerable scope in India for improvement in the yield per acre :—

(Extract from " Industrial Fibres " published by the Imperial Economic Committee).

The unit yield of cotton of certain cotton producing countries.

	(lb. per acre).	
	1936-37.	1937-38.
Egypt	506	531
Peru	478	508
Anglo-Egyptian Sudan ..	272	277
Argentina	96	151
Soviet Union	338	322
United States	198	267
Brazil	135	157
Uganda	90	84
All-India average	100	89

Analysing the all-India figures further, we get the following average yields for the principal provinces and States and for the principal trade descriptions :—

AVERAGE YIELD PER ACRE BY PROVINCES AND STATES.

Provinces and States.	*Average yield in lbs. per acre.*	
	1936-37.	1937-38.
Bombay*	75	80
Central Provinces and Berar	89	70
Punjab*	208	152
Madras*	79	79
United Provinces*	100	136
Sind*	211	150
Bengal*	119	132
Bihar	77	74
Assam	144	213
Ajmer-Merwara	141	162
North-West Frontier Province	76	73
Orissa	50	50
Delhi	200	200
Hyderabad	65	67
Central India	57	43
Baroda	63	81
Gwalior	59	47
Rajputana	55	48
Mysore	56	52
Average—India ..	100	89

*Including Indian States.

AVERAGE YIELD PER ACRE ACCORDING TO TRADE DESCRIPTIONS.

Descriptions of cotton.	*Yield per acre.(lbs.)*	
	1936-37.	1937-38.
Oomras :—		
Khandesh	84	99
Central India	58	44
Barsi and Nagar	71	68
Hyderabad-Gaorani	67	59
Berar	86	70
Central Provinces	94	70
Average—Oomras ..	76	68
Dholleras	67	76
Bengal-Sind :—		
United Provinces	100	136
Rajputana	60	56
Sind-Punjab	199	149
Others	80	77
Average—Bengal Sind ..	159	132
American :—		
Punjab	221	156
Sind	211	147
Average—American ..	219	154
Broach	93	98
Coompta-Dharwars	50	52
Westerns and Northerns	41	41
Coconadas	61	68
Tinnevellies	92	98
Salems	74	69
Cambodias	153	155
Comillas and other sorts	121	154
Average—All trade descriptions ..	100	89

(ii) Better apportionment of the acreage under long, medium and short staple varieties, (i.e.) *a better balancing of types :—*

The following figures, based on voluntary returns furnished to the Indian Central Cotton Committee, indicate the export and Indian mill demand for the various types of Indian cotton, in 1935-36 and 1936-37 :—

(For details *vide* Statistical Leaflets Nos. 3 & 4.)

	Exports.		*Receipts at mills in India.*	
	1935-36.	1936-37.	1935-36.	1936-37.
	(Thousand bales of 400 lbs. each.)			
Bengals	846	873	295	305
Oomras	1,064	1,194	508	508
Verum and Hyderabad Gaorani ..	7	25	125	145
Americans (including Cambodia and Dharwar-American)	826	1,168	801	745
Broach	164	193	264	304
Dholleras	176	178	189	199
Southerns	183	185	417	383
Comillas and others (including unclassified)	81	199	11	11
	3,347	4,015	2,610*	2,600*
Official figures (bales of 400 lbs. net)	3,709	4,267	2,677†	2,631†

* Revised.

† Relate to consumption of Indian cotton.

The approximate staple length distribution of the above voluntary figures is as follows :—

$\frac{7}{8}$″ and above	947	1,340	1,327	1,262
Below $\frac{7}{8}$″	2,400	2,675	1,283	1,338

From the above figures it will be seen that about three-fourths of the Bengals crop, two-thirds of the Oomras crop and half of the Americans (including Cambodia and Dharwar American) constitute the major portion of the exports. The Americans crop has a market both in India and abroad. This is but natural as the staple of this crop is good enough to meet the average requirements of large sections of the mill industry both in India and abroad. The takings by Indian mills of Punjab and Sind Americans (which are the main sub-varieties exported under the group Americans) have been increasing in recent years and appear to have reached a record during the last season, when the slump in prices and shrinking in the exports of Indian cotton coincided with the increased activity in the Indian mill industry. The position of the Bengals and Oomras crops, however, is different

and, in order to have a correct perspective, the details according to sub-varieties under these groups are given below :—

	Exports.		*Receipts at mills in India.*	
	1935-36.	1936-37.	1935-36.	1936-37.
	(In thousand bales of 400 lbs. each.)			
Bengals :—				
United Provinces	58	14	175	132
Punjab	522	599	50	91
Sind	208	221	13	22
Rajputana	24	37	49	46
Others (unclassified)	34	2	8	14
	846	873	295	305
Oomras :—				
Central Provinces Oomras ..	170	154	92	92
Berar Oomras	258	506	61	57
Khandesh Oomras (and Banilla) .	234	281	60	49
Central India Malvi	18	39	176	194
,, ,, Others	171	127	93	84
Barsi and Nagar Oomras (and unclassified)	213	87	26	32
	1,064	1,194	508	508

Taking first the figures for the Bengals group, apart from the United Provinces crop, most of which is taken by Indian mills, the internal demand for Punjab and Sind *desi* cottons is not encouraging compared with the size of these crops. While, Europe is the major market for Sind *desi* cotton, which appears to have a special export demand on account of its woolly feel, the export demand for the large crop of Punjab *desi* cotton is equally distributed between Europe and Japan. If the Japanese market for Indian cotton should continue to shrink, if not entirely disappear, an additional outlet for about 2½ to 3 lakhs bales of Punjab *desi* would have to be found. The crop that would be most affected in such a contingency, however, would be the ' Oomras.' The major market, if not the only market of importance, for the fairly large crops of Berar Oomras, Khandesh Oomras, Barsi and Nagar Oomras and to some extent the inferior styles of Central India Oomras, is Japan. The takings of these styles by Indian mills and Europe have been negligible in the past, compared with the quantity exported to Japan up to 1936-37.

The basic question, however, is not so much what quantities of Indian short staple cotton Japan would take in future, but what the world demand for short staple cotton will be. Japan's consumption of short staple Indian cotton is made up of two elements, *viz.*, (1) the requirements for the manufacture of cotton goods for the export trade and (2) the requirements for the manufacture of cotton goods for home consumption. The first element is the less important since, if Japan should lose her export market for cotton goods, other countries would take its place. It may be stated here that Japan's preoccupation with the Sino-Japanese

war has enabled India in 1937-38 to capture a part of Japan's export market for cotton goods; concurrently the consumption of Indian cotton in Indian mills increased from 2,631,296 bales (including Burma up to 31st March 1937) in 1936-37 to 2,993,741 bales in 1937-38.

The second element, *viz.*, the requirements of Indian cotton for the manufacture of cotton goods for home consumption in Japan, is more vulnerable and its future much less predictable. No one can foretell the effect of the Sino-Japanese war on Japan's internal economy. At present Japan cannot afford to buy the full normal requirements of cotton for the manufacture of goods for internal use and therefore resort is being made to substitutes for cotton. The compulsory use of rayon and staple fibre in the manufacture of piecegoods for the home trade is one of the measures adopted. There is also the possibility that Japan may eventually develop a new source of supply of short staple cotton in China. All these factors indicate that there is a risk of a permanent or at any rate long term constriction in the demand for Indian cotton for the manufacture of cotton goods for home consumption in Japan.

It might be of interest to gauge the extent of the internal market for cotton goods in Japan. Cotton cloth production by Japanese mills may be classified into wide (average width 36 to 40 inches) and narrow (average width about 15 inches) fabrics. Most of the cotton cloth export trade of Japan is made of wide piecegoods. To quote from the publication of the U. S. Department of Agriculture, Bureau of Agricultural Economics, entitled " Consumption of American and other growths of cotton in Japan " June 1935, " these goods contain a considerably higher percentage of medium and fine yarns that are made chiefly from American cotton than do the cotton goods consumed domestically." The narrow fabrics are mostly intended for domestic consumption. These fabrics " are made chiefly of 16's or 20's yarn and probably contain somewhat less than 25 per cent. of American cotton." The production of wide and narrow width piecegoods amounted to 4,096 million yards and 111 million pieces respectively on the average of the three years ending 1937. The exports averaged 2,696 million square yards during the same period. Taking the average length of a narrow width piece as 12 yards and 1 yard of it as equivalent to 5/12th of the wide width piecegoods, the average quantity of piecegoods retained for home consumption during the three-year period may be estimated at 1,954 million yards, leaving out of account variation in stocks. The quantity of cotton required for the production of these 1,954 million yards may be roughly estimated at 1,629,000 bales of 400 lbs. (assuming 1 yard of cloth to have been produced from roughly $\frac{1}{3}$ lb. of cotton).

The next important single market for Indian cotton after Japan is the United Kingdom, whose takings in 1936-37 reached the record figure of 587,000 bales. This was, however, followed by a decline in 1937-38 to 362,000 bales. For promoting the greater use of Indian cotton in the United Kingdom, further investigations into the possibility of finding newer uses for short-staple Indian cotton are understood to be in progress.

Assuming that the shrinkage in the export demand for Indian cotton witnessed in 1937-38 will continue, the question of finding alternative outlets for the short staple cottons, especially Berar Oomras, Khandesh Oomras, Barsi and Nagar Oomras and Central India Others, which are of $\frac{5}{8}$" staple length and under, requires consideration. The replacement of a part of Berar Oomras by Verums and a part of Khandesh Oomras by Jarila will perhaps bring some relief to the growers, but the problem of finding alternative uses for Indian short staple cotton would still remain. This question was considered by the Local Sub-Committee at its meeting in August last, and the attached letter (Enclosure IV) was addressed to Provincial Governments and some Indian States, in accordance with the decision of the Sub-Committee.

The following figures of production by Indian mills of cotton yarn classified according to groups of counts during the last five years are of interest in connection with the probable future trend of the internal demand for different styles of cotton :—

Year.	Counts 1–10.	Counts 11–20.	Counts 21–30.	Counts 31–40.	Counts above 40.	Wastes, etc.	Total.
1933–34	107,564,031	439,866,346	254,827,136	75,810,009	37,358,405	5,634,696	921,060,623
1934–35	109,710,003	463,460,247	282,413,512	96,043,918	43,876,496	5,915,641	1,001,419,817
1935–36	110,713,899	480,206,261	287,744,760	112,339,259	58,528,164	6,083,340	1,055,615,683
1936–37	111,692,937	476,966,877	268,678,211	123,007,542	61,851,698	8,403,461	1,050,600,726
1937–38	113,671,570	494,273,766	302,812,782	152,455,137	85,112,656	11,186,696	1,159,512,607
1937–38 as percentage of 1933-34	106%	112½%	119%	201%	228%	200%	126%

The above figures show that during the five-year period while the production of counts 1-20's increased by 61 million lbs. (26 per cent. of the total increase) in 1937-38 as compared with 1933-34, " 21-30's " " 31-40's " and " above 40's " rose by 48 (21 per cent.), 77 (33 per cent.) and 48 (21 per cent.) million lbs. respectively.

In regard to the demand for cotton by Indian mills, the available figures show that the consumption of short staple cotton does not increase proportionately with the total increase in consumption. It is noteworthy that while consumption of Indian cotton in Indian mills in 1937-38 increased by about 3½ lakhs bales (the bulk of which was probably of medium staple) over that of the previous year, imports into British India of East African and American cotton during the year ending March 1938 amounted to 309,198 bales and 163,486 bales respectively against 224,381 bales and 5,191 bales respectively in the previous year. (For Egyptian cotton there is not even a near substitute in this country.) Although Punjab-American and Sind-American cottons of ordinary quality do not satisfy the requirements of Indian mills for longer staples, they are exportable to the world at large in competition with shorter stapled American cotton which forms a considerable proportion of the American crop as will be seen from the following figures :—

Total American crop and American Upland Cotton of certain staple length groups ginned in the United States of America.

('000 omitted.)
Running bales (Round bales counted as half bales).

Year.	Total crop (all staples).	Staple length (American Upland).			
		Shorter than 7/8″.	7/8″ and 29/32″.	15/16″ and 31/32″.	1″ and 1 1/32″.
5-year average 1928-32	14,388	1,736.0	5,631.2	3,515.7	1,874.9
1933	12,664	539.1	4,504.4	3,992.2	2,004.3
1934	9,472	783.0	3,490.9	2,065.4	1,415.6
1935	10,420	1,320.1	3,235.1	2,628.1	1,682.2
1936	12,141	1,151.6	3,143.1	2,617.3	2,748.7

The general competition may at times be very keen, but there is the advantage that such Punjab and Sind-American cotton is always saleable whereas there is a fear that surplus production of the Oomras type may be quite unsaleable.

The result of this examination may be summed up as follows :—

The production of short staple cotton in India is far in excess of any possible mill requirements. The stable export market is limited and for a considerable portion of the surplus India is far too dependent on a single market where conditions may change radically.

Of medium staple cotton, there is a substantial exportable surplus (limited, however, to cottons not above 1″ staple) and, though competition may be keen, the market is a wide one.

Of the cottons above 1″ staple (possibly the limit should be put at 1 1/16″) the Indian supply is not even adequate to the requirements of Indian mills.

This indicates the need for an intensification of efforts to develop the policy which the Committee has already adopted, *viz* :—

(1) That in no important cotton tract should any cotton be encouraged which is inferior in spinning capacity to the existing cotton of the tract.

(2) That efforts to produce in each tract the best staple for which the tract is suitable should be intensified.

(3) That there should be no relaxation of efforts to reduce mixing and other malpractices which prevent certain cottons from being used to the best advantage.

(ENCLOSURE I)

Letters :—Vulcan House, Nicol Road,
Ballard Estate, Fort, Bombay.
Telegrams :—GOSSYPIUM.
Telephone No. 20964.
Post Box No. 1002.

No. 6675 of 1938.

From

D. N. Mahta, Esq., B.A. (Oxon), F.L.S.,
Secretary, Indian Central Cotton Committee,
BOMBAY.

To

The Director of Industries,
Central Provinces, NAGPUR.

Dated Bombay, the 10th/11th May 1938.

SUBJECT :—*Curtailment of area under cotton.*

Sir,

I have the honour to invite reference to your letter No. 138/D, dated the 7th January 1938, addressed to the Secretary, Provincial Cotton Committee, Central Provinces, a copy of which was forwarded to me by the Director of Agriculture, Central Provinces, and to say that the subject referred to therein under item No. 1 was considered by my Local Sub-Committee at its meeting held on the 28th April 1938.

The Sub-Committee feel that the remedy for the present low prices of cotton does not lie in the curtailment of the area under cotton, as there is danger of such action resulting in India losing her export market for cotton to the detriment of the interests of the cultivator and the country's national economy. In this connection, I am to point out that crop restriction methods adopted in the U.S.A. in recent years have only resulted in giving a fillip to cotton growing in other countries, and in diminishing the export outlets for her cotton. This is indicated by the following figures of world production of cotton :—

WORLD PRODUCTION OF COMMERCIAL COTTON.

(NEW YORK COTTON EXCHANGE SERVICE).

(American Running Bales, Foreign Equivalent 478 lb. Bales).

	1934-35.	1935-36.	1936-37.	1937-38p.
United States :—				
Actual ginned crop ..	9,472,000	10,420,000	12,141,000	18,091,000
Adjustment to Production in Season (*a*)	104,000	75,000	234,000	209,000
Total Production in Season	9,576,000	10,495,000	12,375,000	18,300,000
Brazil	1,298,000	1,678,000	1,708,000	2,100,000
China	2,350,000	2,063,000	3,256,000	3,250,000
Egypt	1,523,000	1,758,000	1,863,000	2,250,000
India	4,198,000	5,323,000	5,661,000	5,500,000
Russia	1,738,000	2,250,000	3,250,000	3,250,000
Other countries	2,367,000	2,753,000	2,587,000	3,200,000
Total Foreign countries ..	13,474,000	15,825,000	18,325,000	19,550,000
Total World ..	23,050,000	26,320,000	30,700,000	37,850,000

(*a*) City crop accumulations plus Mexican cotton imports into the United States, Mexican imports into the United States deducted from foreign production.

p=Preliminary.

The possibility of any action on the part of India to reduce the acreage under cotton producing similar results should not, therefore, be lost sight of. Moreover, restriction of cotton cultivation in India alone has limited application in the direction of raising prices; world-wide restriction alone can bring about tangible results. It has to be borne in mind further that Indian prices cannot stand by themselves; they are conditioned by those which prevail in America. If the former is above parity—as it was in the latter half of 1937—Indian exports decline, as they have latterly done, and even the Indian mills will be tempted to import cheaper growths.

I am to say that, in the opinion of my Committee, the best policy undoubtedly is to aim at reduction in the cost of production by increasing the outturn per acre rather than the curtailment of area. On experimental farms, it has been demonstrated over and over that the application of the most up-to-date cultural methods, use of the best seed, modern equipment and thorough-going soil conservation practices can produce per acre yields far in excess of the averages commonly recorded. The position of India *vis-a-vis* the U.S.A. and Egypt in respect of outturn per acre is shown in the following table:—

AVERAGE YIELD PER ACRE OF COTTON IN AMERICA, INDIA AND EGYPT DURING THE FIVE YEARS ENDING 1937-38.

Year.	Yield per acre.		Yield per feddan.* Egyptian. (Kantars) †
	American. lbs.	Indian. lbs.	
1933-34	213	85	4.75
1934-35	172	81	4.36
1935-36	186	91	5.11
1936-37	198	100	5.31
1937-38	265‡	88§	5.57‡

*Feddan=1.038 acres. †Kantar=100 lbs.

‡December estimate. §Excludes Burma.

It will be seen that, while the average yield per acre during the five years ending 1937-38 was 89 lbs. for India, for the U.S.A. and Egypt the average yields per acre were 207 lbs. and 484 lbs. respectively. The increase in the average yield from 1933-34 to 1937-38 has been remarkable in the U.S.A. and Egypt. In China, Brazil and Russia also, the average yield per acre is considerably higher than in India. My Committee realise that, as most of the cotton in India is grown under rain-fed conditions, yields must vary enormously from year to year, depending upon the vagaries of the monsoon. They nevertheless feel that there is considerable scope for improvement in the yield per acre in India, and that this question should be tackled in a sound, scientific manner if Indian cotton is not to be allowed to be squeezed out of the world markets. It is realised that any scheme for increasing the yield per acre means a long programme, involving better cultivation, better and more manures, etc., and, unless the latter can be made readily available to the cultivator at a reasonably cheap price, no change in the existing methods of cotton growing can be expected. How far these and other methods employed elsewhere can be successfully applied in India is, however, a matter which, in the opinion of my Committee, is primarily the concern of the Provincial Agricultural Department.

The Sub-Committee consider further that a definite attempt should be made for increasing the proportion of medium and long staple cottons in areas which are at present entirely devoted to the production of short staple cottons.

Lastly, I am to add that the fact that cotton cultivation in India is largely dependent upon the monsoon is an additional reason against any project for the curtailment of the area. If there is any scope for restriction, it should be looked for in the marginal lands where cotton cultivation is comparatively unremunerative. Such lands, it is felt, could profitably be diverted to food and fodder crops, though it is realised that it would not be an easy matter to induce the cultivator to change over from a money crop to a food crop. My Committee suggest, however, that a survey of such lands should be undertaken by the Provincial Department of Agriculture, which should also advise the cultivator as to what alternative crops he could usefully raise on such lands.

I have the honour to be,
Sir,
Your most obedient servant,
(Sd.) D. N. MAHTA,
Secretary,
Indian Central Cotton Committee.

No. 6676 Date 11th May 1938.

Copy forwarded to all Provincial Governments for favour of information.

(Sd.) D. N. MAHTA,
Secretary.
Indian Central Cotton Committee.

ENCLOSURE II.

AREA UNDER COTTON ACCORDING TO TRADE DESCRIPTIONS.*

(acres).

Descriptions of cotton.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
Oomras.										
Khandesh	1,410,000	1,373,000	1,211,000	1,184,000	1,062,000	1,116,000	1,152,000	1,285,000	1,304,000	1,313,000
Central India	1,932,000	2,021,000	1,903,000	1,804,000	1,604,000	1,766,000	1,806,000	1,803,000	2,128,000	2,005,000
Barsi and Nagar (*a*)	3,986,000	2,629,000	2,315,000	2,586,000	2,450,000	2,346,000	2,074,000	2,451,000	1,948,000	2,352,000
Hyderabad-Gaorani		916,000	971,000	862,000	890,000	976,000	864,000	978,000	841,000	959,000
Berar	3,429,000	3,443,000	3,221,000	3,162,000	2,828,000	2,948,000	2,915,000	2,848,000	2,713,000	2,851,000
Central Provinces	1,649,000	1,732,000	1,529,000	1,458,000	1,172,000	1,322,000	1,286,000	1,220,000	1,239,000	1,196,000
Total	12,406,000	12,114,000	11,150,000	11,056,000	10,006,000	10,474,000	10,097,000	10,585,000	10,173,000	10,676,000
Dholleras	3,094,000	2,807,000	2,583,000	2,150,000	2,747,000	2,386,000	2,965,000	2,733,000	2,686,000	2,532,000
Bengal-Sind.										
United Provinces	715,000	929,000	845,000	753,000	526,000	811,000	715,000	596,000	700,000	581,000
Rajputana	520,000	541,000	551,000	464,000	452,000	529,000	528,000	521,000	568,000	561,000
Sind-Punjab	2,266,000	2,058,000	1,888,000	2,004,000	1,757,000	2,796,000	2,522,000	2,439,000	2,516,000	2,633,000
Others	85,000	76,000	75,000	74,000	72,000	48,000	48,000	47,000	45,000	57,000
Total	3,586,000	3,604,000	3,359,000	3,295,000	2,807,000	4,184,000	3,813,000	3,603,000	3,829,000	3,832,000
American.										
Punjab	974,000	806,000	837,000	763,000	776,000	809,000	841,000	1,529,000	1,626,000	1,772,000
Sind	29,000	27,000	65,000	59,000	99,000	(*b*)	194,000	384,000	561,000	653,000
Broach	1,270,000	1,324,000	1,232,000	1,271,000	1,308,000	1,283,000	1,384,000	1,367,000	1,493,000	1,464,000
Coompta-Dharwars	1,945,000	1,746,000	1,356,000	1,665,000	1,451,000	1,362,000	1,167,000	1,479,000	1,184,000	1,175,000
Westerns and Northerns	1,835,000	1,551,000	1,541,000	1,897,000	1,568,000	1,770,000	1,454,000	2,163,000	1,603,000	1,860,000
Coconadas	236,000	259,000	199,000	186,000	189,000	170,000	184,000	170,000	165,000	146,000
Tinnevellies	610,000	601,000	525,000	538,000	541,000	575,000	591,000	623,000	597,000	548,000
Salems	224,000	221,000	200,000	204,000	191,000	200,000	181,000	164,000	190,000	202,000
Cambodias	384,000	395,000	248,000	280,000	322,000	346,000	509,000	525,000	516,000	580,000
Comillas, Burmas and other sorts.	460,000	467,000	517,000	358,000	478,000	578,000	592,000	637,000	136,000	143,000
GRAND TOTAL	27,053,000	25,922,000	23,812,000	23,722,000	22,483,000	24,137,000	23,972,000	25,962,000	24,759,000	25,583,000

* Excludes Burma from 1936-37. (*a*) Included the whole of cotton grown in Non-Government areas in Hyderabad up to 1929-30. (*b*) Included under "Sind-Punjab," separate figure not being available.

ENCLOSURE III.

YIELD PER ACRE OF INDIAN COTTON* BY VARIETIES.

(In pounds).

Descriptions.	1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.	1934–35.	1935–36.	1936–37.	1937–38.
Oomras.										
Khandesh	96	73	90	59	80	98	83	91	84	99
Central India	74	58	67	45	52	48	42	67	58	44
Barsi and Nagar ..	81	52	84	55	59	64	59	71	71	68
Hyderabad-Gaorani ..		55	52	53	59	63	60	46	67	59
Berar	81	87	82	36	72	69	61	49	86	70
Central Provinces ..	133	91	125	49	68	64	54	88	94	70
Average, Oomras ..	92	71	84	47	65	66	59	66	76	68
Dholleras	52	73	87	109	100	96	81	93	67	76
Bengal-Sind.										
United Provinces ..	143	124	152	110	129	131	109	131	100	136
Rajputana	111	58	61	63	60	59	58	71	60	56
Sind-Punjab	107	116	120	93	118	135	164	168	199	149
Others	75	79	85	86	83	83	83	85	80	77
Average, Bengal-Sind .	114	108	118	93	110	124	138	147	159	132
Americans.										
Punjab	78	123	129	113	112	180	189	193	221	156
Sind	83	119	123	95	109	..(a)	163	161	211	147
Average, Americans ..	78	123	128	111	112	180	184	186	219	154
Broach	66	86	90	86	97	71	43	96	93	98
Coompta-Dharwars ..	62	65	53	60	61	54	50	47	50	52
Westerns and Northerns	76	44	47	46	51	47	38	52	41	41
Coconadas	78	69	64	71	68	56	65	59	61	68
Tinnevellies	107	108	98	97	110	90	95	88	92	98
Salems	77	69	72	71	73	74	73	73	74	69
Cambodias	152	146	145	183	176	177	152	146	153	155
Comillas, Burmas and other sorts	80	89	95	76	87	98	89	90	121	154
Average, all varieties .	85	81	88	68	83	85	81	91	100	89

* Excludes Burma from 1936-37.

(a) Included under "Sind-Punjab."

ENCLOSURE IV.

Letters :—Vulcan House, Nicol Road,
Ballard Estate, Fort, BOMBAY.
Telegrams :—GOSSYPIUM.
Telephone No. 20964.
Post Box No. 1002. Cir. No.

From

D. N. MAHTA, Esq., B.A. (Oxon.), F.L.S.,
Secretary, Indian Central Cotton Committee,
BOMBAY.

To

Dated Bombay, the 19*th September* 1938.

Subject :—Present position of short staple Indian Cotton.

SIR,

I have the honour to say that in view of the uncertainty which surrounds the future export demand for Indian short staple cotton, due largely to the fact that the off-take by Japan, which has so far been the chief buyer of this type of cotton, is likely to diminish appreciably in the next few years, the Indian Central Cotton Committee has been considering the question as to whether any effective measures can be adopted whereby the possibility of a glut in the market of such cotton could be reduced, if not entirely averted. This subject was discussed at a recent meeting of my Local Sub-Committee, and it was decided to communicate, for the consideration of the Provincial Governments concerned, the conclusions arrived at. In the opinion of the Sub-Committee, the principal directions in which the achievements of the object in view might be looked for are :—(1) the finding of alternative uses in India to which short staple cotton could be put, (2) replacement of short staple cotton by medium and long staple strains, wherever possible and (3) restriction of cotton cultivation on marginal lands.

In regard to the first point, it was suggested that the possibility of using short staple cotton for such purposes as road-making, motor upholstery, manufacture of gun cotton, hospital lint and packing materials, etc., might be examined. The revival of the manufacture of carpets from coarse yarn spun from short staple cotton and the use of short staple cotton in the woollen industry for mixing purposes were other possible directions considered worthy of investigation. In this connection, I am to say that the Indian Central Cotton Committee would be glad to know if there are other industries in the province, excluding textiles, in which the utilisation of short cotton has any scope.

The second point, *viz.*, the replacement of short staple cotton by medium or long staple varieties, wherever possible, was considered to offer possibilities which merited the serious consideration of Provincial Governments and I am to request that this aspect of the question may kindly be investigated. The Committee would be glad to know in due course to what extent it is considered feasible to give effect to this recommendation.

As regards the third point, *viz.*, the desirability of diverting unremunerative marginal lands under cotton cultivation to other crops, the views of the Committee have already been stated in the last paragraph of my letter No. 6675, dated the 10th/11th May 1938, to the Director of Industries, Central Provinces, a copy of which was forwarded to you with my endorsement No. 6676, dated the 11th May 1938. I am to enquire whether the Provincial Government have taken any steps in the direction indicated and, if so with what result. If no action has hitherto been taken my Committee would be glad if this question is given consideration.

I have the honour to be,
Sir,
Your most obedient servant,
(Sd.) D. N. MAHTA,
Secretary,
Indian Central Cotton Committee.

APPENDIX III.

SUBJECT 23.—*Technological Research—Report of the Technological Research Sub-Committee.*

The Technological Research Sub-Committee met at 3-30 P.M. on Friday, the 18th November 1938.

Mr. J. L. Hurschler was appointed a member of the Sub-Committee for the remaining period of the current financial year *vice* Mr. J. Vonesch resigned.

The Sub-Committee considered the Supplementary Note and decided that as, owing to delay in the receipt of some of the samples, the results of the tests on trade varieties of Indian cottons carried out at the Technological Laboratory were received too late to be of any use to the mills in purchasing their requirements of a particular season, an attempt should be made to obtain the samples from the East India Cotton Association and the Millowners' Assocations, as early in the season as possible. In this connection it was thought that the process might be expedited if half the quantity of the samples received for valuation at the East India Cotton Association were immediately transferred to the Technological Laboratory for carrying out the tests.

As it was felt that some of the cottons had lost their value, it was decided that the list of samples supplied by the East India Cotton Association and the Millowners' Associations of Bombay and Ahmedabad should be revised as shown in the attached statement,* and that the revised list should be forwarded to Sir Purshotamdas Thakurdas to enable him to see if samples from the East India Cotton Association could be sent for tests much earlier than in the past.

The Progress Report of the Director, Technological Laboratory, was approved.

It was recommnded that the Revised Estimates submitted by the Director, Technological Laboratory, be increased by Rs. 900 by raising the provision under "Reserve" from Rs. 725 to Rs. 1,625 to meet any probable expenditure in connection with the proposed visit of His Excellency the Viceroy to the Laboratory. The Revised Estimates,* as amended, were provisionally approved.

The Budget* for 1939-40 was provisionally approved.

It was decided that the design and specifications of the Swiss Pilot Plant received from Messrs. Volkart Brothers should be forwarded to Mr. Gilmore for examination and that any further information that might be required in this connection should be obtained by Mr. Gilmore direct from Messrs. Volkart Brothers, to save time.

With regard to the possibilities of manufacturing artificial silk by the Viscose process by using 70 to 100% cotton, it was decided that Mr. Gilmore and Dr. Thoria should be requested to work out details of the cost much more fully than had been done so far, and to submit a report as to whether or not it would be an economic proposition, for consideration at the next meeting of the Sub-Committee.

Dr. Thoria's reports were recorded.

The Secretary's note regarding the production of cotton linters was recorded.

The Sub-Committee considered a proposal by Lala Shri Ram for investigating at the Technological Laboratory the conditions under which one Indian weaver may be able to look after at least 8 looms, and decided that a revised scheme should be drafted by Lala Shri Ram in consultation with Dr. Nazir Ahmad and sent to the Vice-President for approval, after it had been vetted by Mr. Tinker. The approved scheme should then be circulated to all millowners' organisations and individual mills which are not members of any organisation, to elicit opinions as to whether they would be prepared to contribute to the cost of the proposal and, if so, to what extent. It was further decided that the revised proposal should be placed before the next meeting of the Committee.

The details of the tests carried out at the Technological Laboratory on the effect of the two different types of gins on fibre were considered and recorded.

The Sub-Committee recommended that the services of Dr. Nazir Ahmad should be continued for a further period of five years, the terms to be negotiated by the Standing Finance Sub-Committee.

*Not printed.

REVISED STATEMENT.

List of Samples supplied by the East India Cotton Association, Ltd., Bombay, for tests.

Name of Cotton.

1. C. P. No. 1.
2. Verum 434.
3. Berar.
4. Khandesh.
5. Gaorani 6.
6. Latur
7. Punjab-American 4-F.
8. Punjab-American 289-F.
9. Broach.
10. Jagadia Farm.
11. Navsari.
12. Kadi/Virangam.
13. Farm Westerns.
14. Jayawant.
15. Upland (Gadag).
16. Bijapore.
17. Tinnevelly.
18. Cambodias.
19. Karungannis.
20. A. R. Kampala.
21. A. R. Busoga.
22. A. R. Jinja.

List of samples supplied by the Millowners' Associations of Bombay and Ahmedabad.

Name of cotton.

BOMBAY.

1. Farm Westerns.
2. Bailhongal.
3. Broach.
4. Karunganni.
5. Ujjain (Ujjain).
6. Westerns.
7. Miraj.
8. Surat.
9. Navsari.
10. Tirupur Cambodia.
11. Hubli Compta.
12. Hubli Upland.

AHMEDABAD.

1. Jagadia.
2. Kadi.
3. Bawla.

APPENDIX IV.

SUBJECT 37 :—*Summary of Proceedings of the Local Sub-Committee.*

Three meetings of the Sub-Committee were held since the last meeting of the Indian Central Cotton Committee. Mr. Vonesch, having resigned, his place on the Sub-Committee has been taken by Mr. J. Hurschler, who has succeeded him on the Committee.

2. A cotton firm in Bombay reported that in a factory in Khandwa watering of cotton was again being resorted to and that similar reports were current in regard to factories in certain other centres in the Central Provinces. As it was also reported that the District Magistrate who investigated the Khandwa case merely warned the culprit without instituting legal proceedings, a letter was sent to the Provincial Government pointing out that leniency in dealing with cases of this kind would adversely affect the enforcement of the rules under the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act, 1938, under which watering was punishable with fine extending to Rs. 1,500. The Provincial Government, in reply, forwarded a letter from the Director of Industries, Central Provinces and Berar, in which he stated that effective check lay in district authorities catching offenders red-handed and that he had accordingly issued confidential instructions to the Deputy Commissioners of the districts concerned. As regards the Khandwa case, the Director of Industries reported that the evidence available to show that the cotton had been deliberately watered was insufficient to justify the institution of legal proceedings. The reply of the Provincial Government was considered by the Sub-Committee and recorded.

3. A Bombay firm reported that a lot of 79 bales of cotton from Itola was found to be false packed by the surveyors of the East India Cotton Association. The Baroda State authorities were accordingly addressed in the matter and the manager of the factory concerned was prosecuted. He was, however, acquitted by the magistrate who tried the case on the ground that water had not been added to the cotton *in order to increase its weight*. The Sub-Committee decided that the Baroda Durbar should be requested to amend the Baroda Cotton Ginning and Pressing Factories Act so as to allow of no loophole of escape.

4. In October 1936, the East India Cotton Association forwarded copies of an arbitration award and of the notes recorded by the Superintendent, Cotton Exchange, Sewri, in respect of a lot of 50 bales of Karvan (Baroda State) cotton found to be false-packed. The case was reported to the Baroda authorities and the manager of the pressing factory at Karvan was prosecuted for watering cotton, but the complaint was dismissed by the magistrate who tried the case on the ground that it was not proved on the strength of the evidence led and because the bales were not produced in court. In connection with a previous case in British India which was dismissed on the ground that the bales were not produced in court, the Sub-Committee held that it was not practicable for bales to be produced in court as evidence and that in such cases a commission should be taken to Bombay to record the evidence of the seller, one of the arbitrators and the Survey Clerk of the East India Cotton Association. It was accordingly decided that this decision should be communicated to the Baroda State authorities for guidance in similar cases in future.

5. The final rules framed under the Central Provinces Cotton Control Act, together with the notifications issued by the Central Provinces Government prohibiting the sale, mixing, possession or cultivation of Garrow Hill cotton with effect from 1st June 1938 were considered by the Sub-Committee and recorded. It was noted that the Central Provinces rules made no provision for the " Compounding " of offences as was the case in the rules under the Bombay Cotton Control Act for the eradication of *Goghari*.

6. The Sub-Committee at its meeting in June last considered the question of including " cotton " in the Schedule to the Agricultural Produce (Grading and Marking) Act, 1937 and arrived at the following decisions :—

> " (1) The Sub-Committee approved of the President's proposals in principle, but with a view to causing as little hardship as possible in giving effect to them, it was decided that the President should be requested to send a rough outline of the rules intended to be framed for cotton to enable the Sub-Committee to consider the matter further. It was agreed, however, that, as a first step, the Government of India should be addressed regarding the inclusion of cotton in the schedule under the Agricultural Produce (Grading and Marking) Act, 1937, to enable specified varieties of cotton being protected under it.

(2) It was decided further that, in the meantime, the papers on the subject should be circulated to commercial bodies for opinion.

(3) The suggestion that no cotton of less than a specified average staples as determined by the Baer Sorter, shall be marked with the AGMARK and 1027, was not considered practicable, nor was the detection of a mixture of Surat 1-A and 1027 by the presence of 1-A seed in the mixture considered an easy matter from the practical point of view.

(4) The Sub-Committee was further of the opinion that no useful purpose would be served by carrying out fibre tests on the two cottons for distinguishing between them for the purpose of the Act."

In accordance with the above decisions the Government of India, the President, the Committee and 30 important commercial bodies were addressed.

At its meeting held on 28th October 1938, the Sub-Committee considered the replies of 23 commercial bodies and noted that 17 were in favour of the proposal for the inclusion of " cotton " in the schedule to the Act, 4 were against it, and 2 had no views to express. It was, however, decided to await receipt of the draft rules before taking further action.

7. The Sub-Committee considered a letter from the Government of India regarding the proposals submitted by the Committee for amendment of the Cotton Ginning and Pressing Factories Act, 1925, and of the Rules. It was noted that the Government of India considered that the following proposals would not present any difficulty :—

(*i*) the amendment of Section 14 in such a manner that the right of a purchaser to reject a bale is limited to bales not bearing the special mark prescribed for the factory ;

(*ii*) the incorporation of a provision in the Act to the effect that if bales are correctly marked, it shall be presumed, as between buyer and seller, that they were marked before leaving the factory ;

(*iii*) the omission in Rule 7 of the Cotton Ginning and Pressing Factories Rules of the word " clearly " before " decipherable ";

and

(*iv*) the insertion of provision to the effect that there is no objection to the special mark and the serial number appearing both on the bale and on the hoops, if so desired.

The proposal that a proviso should be added to Section 14 of the Cotton Ginning and Pressing Factories Act to the effect that where 50 or more bales are to be tendered in fulfilment of a future contract under the bye-laws of any recognised cotton association, the lot should not be rejected if a prescribed percentage of bales is marked, was not considered acceptable by the Government of India, in view of the absolute embargo in Section 4 of the Act on the removal of unmarked bales from a pressing factory.

With regard to the proposal of the Committee for the amendment of Section 9 (1) of the Cotton Ginning and Pressing Factories Act, so as to bring additions and alterations to factories, constructed before the commencement of the Act, within the scope of sub-section (1) of Section 9, the Government of India considered that a general provision of the nature suggested would be inequitable as it would mean in effect that no alteration even of a most trivial character to a pre-Act factory could be undertaken without imposing on the owner the liability to reconstruct the whole factory. The most that might be considered possible to be done was to amend Section 9 of the Act in such a way as to render the factory owner making alterations or additions to his factory liable to cause them to conform to the requirements which sub-section (1) of that section would have caused to attach to an original construction in so far as these requirements are directly relevant to the alterations or additions and in so far as they are separable *vis-a-vis* the requirements from the structure as a whole.

The Sub-Committee concurred in these views and the Government of India were informed accordingly.

8. At the instance of the Vice-President the question of finding alternative uses for short staple Indian cotton was considered by the Sub-Committee. This subject is dealt with under Subject 11 of the Agenda for this meeting.

9. The Sub-Committee considered a representation against the imposition by the Village Panchayat, Palej, of a tax on certain articles including one of annas three per cart of *kapas* and decided to draw the attention of the Bombay Government to this. The Government of Bombay's reply stating that they did not think it necessary to suspend the levy of the tax on cotton and other articles as the rates appeared to be very low, was considered by the Sub-Committee, and it was decided to defer action for the time being as the East India Cotton Association, which had received a similar letter, were taking up the matter with the Provincial Government,

10. The Sub-Committee in June last decided to support the representations made by certain trade bodies to the Government of India against the distinction made by some shipping companies in regard to freight rates on cotton and seeds transported from India to the United Kingdom and the Continent. Further correspondence which had passed between the Karachi Cotton Association and certain shipping companies was considered by the Sub-Committee and it was decided that as the Government of India had already been addressed in the matter, no further action was necessary for the present.

11. The Sub-Committee considered and recorded the reply of the Bombay Government to the effect that they could not undertake the compilation of statistics of road-borne imports of cotton into the town and island of Bombay until they possessed the necessary statutory powers to stop vehicles for this purpose. It was noted that the question of the form which such legislation should take was at present under examination by the Provincial Government.

12. The Sub-Committee considered a letter from a member of the Committee proposing the appointment of a Committee of experts to investigate whether quality Indian cottons like Sindh *Sudhar* were spun to their maximum spinning capacity by mills in India and to suggest ways by which better prices could be obtained for such cottons. It was decided to circulate the letter to the Millowners' Associations of Bombay and Ahmedabad for opinion.

13. In connection with the broadcast of cotton prices, the Sub-Committee considered the arrangements for the installation of receiving sets at selected markets, and the adoption of suitable texts for the broadcasts. The Sub-Committee was not in favour of accepting the proposal of the Controller of Broadcasting that the Committee should bear certain recurring charges on the maintenance and supervision of receiving sets, and decided to refer the matter to the full Committee. This subject has accordingly been included in the Agenda of this meeting.

14. The Sub-Committee considered a proposal that the Committee should undertake the collection of statistics of foreign cotton consumed in mills in India and decided that the Government of India should be requested to amend the Indian Cotton Cess Act for this purpose.

15. At its meeting in February 1933, the Committee decided that steps should be taken to introduce Universal Standards for Indian cottons. A Standards Sub-Committee was accordingly appointed and it was decided that standards should be prepared for the following cottons, the first four of which should be dealt with at Karachi and the remainder at Bombay :—

1. Bengals,
2. Sind,
3. Punjab-American,
4. Sind-American,
5. Oomras,
6. Mathias,
7. Dholleras,
8. Broach,
9. Kumptas.

The Standards Sub-Committee decided which particular growths of the above cottons should be used for preparing standards and also the number and description of the standards of each variety to be prepared.

Other decisions arrived at and given effect to are as follows :—

(*a*) When standards for such cottons as are dealt with by both the Karachi and East India Cotton Associations are to be passed by the Standards Sub-Committee of the Indian Central Cotton Committee, two representatives each of both these Associations and one representative of the Imperial Council of Agricultural Research will constitute the Standards Sub-Committee. These standards will be prepared at Karachi.

(*b*) When standards for such cottons as are dealt with by only one of the two Associations are to be passed by the Standards Sub-Committee, the representatives of the Association not concerned in that growth will be replaced by two representatives of cotton growers of the cotton tract concerned. The appointment of these two representatives will be made by the Committee on the recommendation of the Directors of Agriculture of the Provinces concerned but if it be not possible to appoint two cotton growers for any tract, one person representing cotton marketing interests may be appointed in place of one of the cotton growers.

(*c*) A set of standards passed by the Standards Sub-Committee every year will be preserved by the Committee in hermetically sealed boxes for reference in case of dispute.

(*d*) Members of the Standards Sub-Committee will be paid actual out-of-pocket expenses up to a maximum of a single first class fare by rail or steamer each way, mileage by road at six annas a mile and a daily allowance not exceeding Rs. 7 per day on days when they actually attend meetings of the Standards Sub-Committee.

(*e*) That the Committee's set of the Universal Standards should be preserved at Bangalore.

At its meeting held on the 28th October 1938, the Sub-Committee considered the question of discontinuing the Standards Sub-Committee in view of the fact that no trading was done on the basis of the Universal Standards and that, as far as the standards dealt with by the East India Cotton Association alone were concerned, the members of the Standards Sub-Committee had no voice in their actual fixation since the universal standards were prepared to correspond with the Association's standards, which had already been passed previously. The Sub-Committee decided that the Associations concerned should be requested to amend their bye-laws to provide for trading to be done against the Universal Standards and that, if necessary, the assistance of Government should be obtained to get them to do so. In regard to other details it was decided that the existing procedure should be continued.

Summary Proceedings

OF THE

Thirty-Ninth Meeting

OF THE

Indian Central Cotton Committee,

Bombay,

HELD ON THE

31st March 1939.

[Price Re. 1.]

Summary Proceedings

OF THE

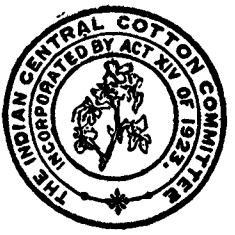
OF THE

Bombay.

HELD ON THE

31st March 1939.

[Price Re. 1]



INDIAN CENTRAL COTTON COMMITTEE.

With the Secretary's compliments.

Vulcan House, Nicol Road,
Ballard Estate,
Fort, Bombay.

INDIAN CENTRAL COTTON COMMITTEE.

39TH MEETING—31ST MARCH 1939.

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Present :

Sir Bryce Burt, C.I.E., M.B.E., I.A.S. (*President*),
Sir Chunilal V. Mehta, K.C.S.I. (*Vice-President*),
Sir Purshotamdas Thakurdas, C.I.E., M.B.E.,
Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,
Mr. S. D. Saklatvala, M.L.A.,
Mr. Kasturbhai Lalbhai,
Lala Shri Ram,
Dr. W. Burns, C.I.E., I.A.S.,
Sir William Roberts, C.I.E.,
Rai Bahadur S. V. Kanungo,
Mr. H. R. Stewart, I.A.S.,
Mr. P. H. Rama Reddi, I.A.S.,
Mr. W. J. Jenkins, I.A.S.,

Mr. R. G. Allan, C.I.E.,
Mr. J. C. McDougall, I.A.S.,
Mr. T. R. Low, I.A.S.,
Rao Saheb K. I. Thadani,
Rao Bahadur Sir Madhaorao Deshpande, K.B.E.,
Mr. J. Venesch,
Mr. M. S. Durutti,
Mr. A. P. Darlow,
Mr. Chandulal P. Parikh,
Mr. Roger Thomas,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. Nizam-ud-Din Hyder,
Rao Bahadur V. Ramanatha Ayyar,
Mr. Chellaram Shewaram,
Mr. T. G. Rama Iyer,
Mr. M. P. Kolhe, M.L.A.,
Sardar D. K. Jadhav,
Capt. S. R. Pocock, M.C., M.L.A.,
Rai Bahadur Lakhshmi Raj Singh, M.L.C.,
Sardar Saheb Gurbachan Singh, M.L.A.,
Mr. M. B. Patel, M.L.A.,
Mr. P. V. Deshmukh,
Mr. D. K. Kane,
Mr. Y. R. Joshi,
Ch. Mohammad Yasin Khan, M.L.A.,
M. R. Ry. V. C. Palaniswami Gounder, Avl.,
M. R. Ry. H. Sitarama Reddi Garu, M.L.A.,
Mr. G. P. Chakravarty,
Mr. H. B. Rajdev,
Chaudhari Sheomangal Singh, M.L.A.,
Dr. B. L. Sethi,
The Secretary (Mr. D. N. Mahta).

By Invitation.

Mr. P. S. Rau, I.C.S., Director of Land Records, Central Provinces and Berar, Nagpur,
Mr. E. F. G. Gilmore, Director, Industrial Research Bureau, Indian Stores Department,
Mr. R. G. Saraiya, J.P., C/o Messrs. Narandas Rajaram & Co., Bombay,
Dr. Nazir Ahmad, O.B.E. (Director, Technological Laboratory, Matunga, Bombay),
Mr. K. Ramiah, M.B.E., Geneticist and Botanist, Institute of Plant Industry, Indore,

Mr. C. J. Bocarro (Assistant Secretary),

Mr. Mazhar Husain, Director of Statistics, H. E. H. the Nizam's Government,

Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,

Mr. Jamnadas Ramdas, C/o Messrs. Dossa & Co., 397, Marwari Bazar, Bombay,

Mr. T. B. Dalal, Secretary, Karachi Cotton Association, Ltd., Karachi.

Letters or telegrams were received from the following members regretting their inability to attend the meeting :—

The Director-General of Commercial Intelligence and Statistics, Calcutta,

Dr. T. E. Gregory,

Mr. P. B. Richards, I.A.S.,

Mr. Balak Ram,

Mr. Jamshed Nusserwanji, and

Mr. J. Nuttall.

President's Speech.

It gives me great pleasure to welcome you to the 39th meeting of the Indian Central Cotton Committee. This is the third occasion on which the Committee has held three meetings in the year but we found at our last meeting at Lyallpur in November that there were certain important matters which we did not wish to postpone until July or August.

May I, in the first place, extend a hearty welcome to Captain S. R. Pocock, Rai Bahadur Kunwar Lakshmi Raj Singh, Chaudhri Sheomangal Singh and Mr. T. G. Rama Iyer who have recently been appointed on the Committee in the place of Mr. J. Tinker, Rai Bahadur Lala Anand Sarup, Khan Bahadur Shah Nazar Hussain and Dr. V. K. Badami, respectively.

You will all, I am sure, offer our heartiest congratulations to Dr. Burns, C.I.E., and to Rao Bahadur Ramanatha Ayyar on the distinctions conferred on them in the New Year's Honours List. Both of them have done conspicuous work for the improvement of Indian agriculture and cotton growing in particular and we are glad that this has been recognised in this manner.

The main subject for our discussion at this meeting is the present position of Indian cotton and the steps which should be taken to ensure a better balance of production and to improve the position of the Indian cotton grower. It is one of the functions of this Committee to keep in touch with changes in the Indian and world demand for the different types of cotton, to advise on the policy which should be followed to meet the changes in the industry and in world demand and so to plan our research programme that our recommendations may be given a practical turn. I will not attempt to repeat what I said at our last meeting on the importance of this problem. A Special Sub-Committee has devoted two days to the consideration of the steps which should be taken and we shall proceed almost immediately to a discussion of their report.

Amongst other matters which have been before us before is that of the incidence of ginning and pressing charges when cotton prices rule at their present level. Here it is of interest to note that the report of the Pools Committee appointed by the Government of the Central Provinces and Berar states that there is a clear case for legislation for the control of ginning and pressing rates in that important cotton growing province. The views of other Provincial Governments are also contained in the papers before you. Our Cotton Forecast Improvement Sub-Commtittee has considered the question of systematic crop cutting experiments, designed on randomised basis, in order to obtain a more reliable standard yield figure. In this matter we had the valuable advice of that well-known Statistician, Professor Fisher of London and Rothamsted, and the recommendations of the Sub-Committee are now before you. Whilst the cotton press returns, which the Committee was instrumental in establishing, now give us annually a reliable figure for the total commercial crop our direct production estimates are still far from satisfactory.

You will also be glad to note that the Gwalior Durbar has issued a notification prohibiting the import of certain cottons into the State and declaring several districts as a protected area. This is in accordance with our recommendations and should go a long way towards stopping the importation of inferior cottons from other areas for purposes of mixing.

In accordance with our recommendations a Bill to amend Sections 9 and 14 of the Cotton Ginning and Pressing Factories Act has just been passed by the Central Legislature. This we trust will lead to smoother working and to the avoidance of several practical difficulties which, in certain seasons, have caused hardship to the cotton trade.

I will not attempt to anticipate the discussions on our agenda but on this occasion, in particular, I would like once more to acknowledge the work done by the Sub-Committees which have devoted the greater part of a week to the preparation of material for our consideration. As usual we owe a debt of gratitude to our Local Sub-Committee and to our Standing Finance Sub-Committee for the work which they have done in the interval since the last meeting and the time which they have given to our affairs.

SUBJECT 2.—*Confirmation of Minutes.*

The Minutes of the previous meeting held on the 17th, 18th and 19th November 1938 were confirmed.

SUBJECT 3.—*Retirement of members by rotation.*

The Secretary's note was recorded.

SUBJECT 4.—*Comments of the Government of India on the Annual Report of the Committee.*

The letter from the Government of India, acknowledging receipt of the Annual Report of the Indian Central Cotton Committee for the year ending 31st August 1938, and expressing their appreciation of the services of the members, Secretary and staff of the Committee was recorded.

SUBJECT 5.—*Financing of Seed Schemes—Contribution by Provinces or States.*

It was decided to review at the next meeting of the Committee the basis of allocation of expenditure between the Committee and Provinces and States in connection with the financing of seed distribution and extension schemes.

SUBJECT 6.—*Present position of Indian cotton.*

SUBJECT 7.—*Report of Special Sub-Committee on the present position of Indian cotton.*

SUBJECT 33.—*Lack of hedging facilities in the Bombay markets compared with other markets—Note by Mr. J. Vonesch.*

At its meeting held on the 18th November 1938, the Indian Central Cotton Committee appointed a Special Sub-Committee to examine the problems connected with the present position of Indian cotton and the measures for dealing with them, and to submit its findings to the main Committee. This Sub-Committee met on the 27th and 28th March 1939 and its report, which covered the following points, was considered by the main Committee on the 31st March :—

(1) *The need for securing a better balanced production of different cottons.*

Report of the Special Sub-Committee.—"The Sub-Committee noted that there had been a definite increase in the proportion of long staple cottons in the Punjab. The total area under cotton had reached nearly 3 million acres, of which 51% was under medium and long staple cottons. Out of this 51%, 25% was under such cottons as *L.S.S.*, *289F*, *289F/43*, etc. In view, however, of the setback which these cottons had received as a result of low prices last year, it was not certain that this position would be maintained. Further, it was pointed out that there was no indication, at the present moment, of any material being available amongst the Punjab-American varieties, which might be capable of producing a reasonably average crop on poorly irrigated light sandy soils which grow *desi* cotton.

The view was expressed that the difficulty created in the Indian market by *Oomras* types of cotton could be relieved by a switch over from *desi* to Punjab-American in the Punjab and Sind. In this connection, the need for intensive propaganda to extend the cultivation of American types, especially those having one inch staple and over, in the Punjab and the adjoining States was stressed and it was suggested that the possibility of obtaining suitable breeding material in the same way as had been done in China, Russia and the Sudan should be investigated. The Sub-Committee, however, felt that unless a cotton can be produced which could be marketed to the advantage of the cultivator there was not much prospect of any immediate 'change over.' It was not merely a matter of staple length; spinning qualities and ginning percentage, both required to be taken into account.

Several trade members were against the elimination of Sind *desi*, on the ground that it was never a drag on the market, could be sold easily and regularly and in some years even fetched the same price as the ordinary Sind-American cotton. The suggestion to replace *4F* also did not find much favour; it was explained that this cotton was being used by the mills for spinning counts of about 16's to 20's and its replacement by a cotton of 1" would cause serious difficulty in filling the gap.

An important query raised was whether in the opinion of the Committee the Indian cultivator, if he grew an excessive quantity of staple cotton, would be in a position to compete with countries which produced nothing but American cotton. It was pointed out that the United States of America, despite deliberate and planned large reduction of acreage, had produced 11 million bales of staple cotton and that comparatively speaking, the Indian cultivator had marketed his present crop

much quicker and better than the American farmer. This was a factor which should not be lost sight of, as there was likelihood of similar conditions prevailing for a number of years to come."

It was observed that the report of the Special Sub-Committee contained no reference to *Dholleras* cotton, the demand for which was falling off rapidly with the result that when this cotton came to Bombay, it depressed the Broach contract. In reply, it was stated that the Bombay Agricultural Department had already evolved a strain, *Wagad* 8, with better staple length and spinning value than *Dholleras*. A scheme for the improvement of *Dholleras* cotton had also recently been put into operation at Viramgam. Further, a proposal was under consideration for submission to the Committee of a scheme for the improvement of *Wagad* cotton in Cutch State, the results from which would be of value to the whole of the *Dholleras* tract. Investigation had shown that the *Wagad* cotton of Cutch State possessed longer staple than that of Gujerat. Doubt, however, was expressed regarding the possibility of producing a cotton suitable for the *Dholleras* tract and spinning 24's counts.

Emphasis was laid on the necessity of devoting attention in all cotton improvement work not only to staple length but also to ginning percentage.

In regard to the question of improving the medium staple Broach cotton, it was pointed out that the variety B. D. 8 fetched a good premium on Broach but, owing to defective marketing, this premium was absorbed by the merchant and middleman and did not always reach the grower. A further defect of this cotton was its low ginning percentage.

As regards the Central Provinces, it was stated that in the past the only competitor to *Verum* was Hyderabad *Gaorani* but in the current year substantial quantities of *L.S.S.* from the Punjab had been brought by road to the Central Provinces with the result that the premium of *Verum* dropped very appreciably. If such imports were likely to become a permanent feature, it would be necessary to re-orientate the cotton policy of the Central Provinces, the aim of which would be the production of a cotton with a staple length of about $\frac{7}{8}$" but with a good ginning percentage.

The Report of the Special Sub-Committee was adopted and the following Resolution passed :—

RESOLUTION 1.—" The Committee is of the opinion that while satisfactory progress in the matter of replacement of short staple cotton by long and medium staple cotton has been made during the past few years, further investigations in this connection appear necessary and the process of better balancing of short and long staple cottons in India should continue. With this object, efforts should be made to obtain fresh breeding material from all possible sources. The Committee feels, however, that the advantages of the change to the cultivator should, at no stage, be overlooked and due consideration should continually be given as to what would be the most paying type of cotton for him to grow in the long run."

(2) *Raising the efficiency of cotton cultivation.*

Report of the Special Sub-Committee.—The Sub-Committee discussed this subject from the standpoint of greater yield and lower cost of production. It was

explained that the introduction of improved types of cotton would be greatly facilitated and more money put into the cultivator's pocket if the general yield of the tract could be raised. The need for greater attention to crop rotation, improvement in local tillage practices, bunding and better cultivation was emphasised. It was pointed out that the Dry Farming Research at Sholapur had shown indications that the yield could be raised by 50 to 100% by the construction of small field bunds. Much could be achieved in this direction if in the major cotton-growing tracts such work were done by the cultivators themselves with the cotton best suited to the area and in accordance with the approved methods of tillage. In this way, not only would astonishingly good results be obtained in the matter of raising the yield but the procedure would at the same time prove a valuable method of propaganda in the extension of better methods of cultivation amongst the growers. Much stress was laid on the importance of checking soil erosion, the work done at Hagari being quoted as an instance of what can be done in this connection; here by means of bunding it had been possible to increase the yield by nearly 50%.

The view was expressed that seed improvement offered one of the easiest and cheapest methods of improving the yield and that for areas where the crop was dependent on rainfall an improved system of rotation was interplanting instead of crop-sequences.

It was suggested that as part of 'Land Use Programme,' the Sub-Committee should recommend that more attention should be given to the improvement of cotton cultivation. The following measures were considered to be specially suitable for such a movement :—

(*i*) Starting of cotton cultivation on complete holdings or preferably in villages managed by cultivators themselves according to the best system devised by the local Agricultural Department.

(*ii*) Undertaking of soil conservation measures, where applicable.

(*iii*) Keeping of accounts as to expenditure and income of such holdings.

It was pointed out that Local Governments were committed both in principle and finance to some form of rural reconstruction and this would appeal to them straightaway. With regard to the question of cost, there were two great untapped sources which should be utilised. One was the large amount of spare time which the cultivator had, as had been found by the 'Cost of Production Enquiry' and the other the huge waste of vegetable material which by composting could be converted into valuable manure. Stress was laid on the value and importance of local leadership in such matters. As regards the financing of schemes outlined above, it was for the Provinces and States to put up model projects for consideration by the Committee. The latter could then give indication of the help that it would be prepared to give for the working of the scheme. This procedure would also enable the model projects from Provinces and States to be compared with a view to seeing to what extent there was similarity and what co-ordination was possible."

As a further means of giving a greater return to the cultivator, the cleaner picking of cotton was suggested and it was proposed that a simple model method should be demonstrated to him. It was, however, observed that experiments had proved that clean picking did not pay the cultivator as the enhanced price obtained for cleaner cotton did not cover the additional expense involved.

A suggestion was made for the prohibition of the export of organic manures, such as bones and oil cakes, on the ground that their retention in the country and availability in large quantities would benefit the cultivator.

The Report of the Special Sub-Committee was adopted and the following Resolution passed :—

RESOLUTION 2.—"The Committee notes that, while as a result of the joint efforts of the Indian Central Cotton Committee and the Provincial Departments of Agriculture, some improvement in the outturn

of cotton per acre in India has taken place, the yield still compares very unfavourably with other countries and in many areas is extremely low. It, therefore, recommends :—

(i) the starting in major cotton growing tracts of cotton cultivation projects which would be complete holdings or preferably villages managed and cultivated by the cultivators themselves according to the best system advised by the local Agricultural Department and where the results of research work could be concentrated in practice and demonstrated to growers under cultivators' conditions with the improved type or types of cotton best suited to each tract.

(ii) the keeping of accounts giving information as to the expenditure and income of the projects referred to above.

The Committee further recommends that such work should be carried out by the Provincial Departments of Agriculture in collaboration with the Indian Central Cotton Committee in selected holdings or villages."

In regard to the question of sending an expedition for collecting material suitable for Indian conditions, it was suggested that as the cost would be very high, enquiry should be made of Provincial Governments as to whether they would be prepared to share expenditure with the Committee, should such an expedition be decided on.

The following Resolution was passed :—

RESOLUTION 3.—" The Committee recommends that the President of the Indian Central Cotton Committee should get into touch with the Russian Institute of Plant Breeding, Tashkent, and see what can be done in the way of getting seeds of cotton varieties collected in their present expedition. It is also suggested that the Imperial Bureau of Plant Genetics (Cambridge) be asked to give all possible information and help.

Thereafter the question of a special expedition should be reconsidered, if necessary."

Before the next item on the report of the Special Sub-Committee was taken up, the following Resolution was passed :—

RESOLUTION 4.—" That in view of the greater range of work and additional responsibilities which the Secretary of the Indian Central Cotton Committee now has to undertake, it is necessary to implement the decision reached at the 38th meeting of the Committee by the appointment of a Technical Assistant Secretary. The Committee requests the Standing Finance Sub-Committee to take the necessary steps as early as possible."

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(3) *Restriction of cotton cultivation on marginal lands.*

Report of the Special Sub-Committee.— " Consideration was given to the practice reported to be gaining ground in America of putting marginal lands under timber and allowing grass to grow on such lands in order to restore their fertility for growing cereal crops. It was suggested that experiments of this type might be tried in India.

The general opinion of the Sub-Committee was that curtailment of acreage in India seemed to offer no great advantage but that if an international conference were held with the object of restricting cotton production, India should take part in it."

The Report of the Special Sub-Committee was adopted.

The suggestion was accepted that the question of withdrawing marginal lands from cotton cultivation and putting them for purposes such as grazing, growth of fuel or fodder trees and crops for livestock with a view to building up soil fertility and preventing soil erosion should be investigated in connection with the model projects proposed. It was observed that considerable successful work had been done in this direction in the U. S. A.

(4) *Finding alternative uses for short staple cotton.*

Report of the Special Sub-Committee.—"Attention was drawn to the fact that in America, where the problem of short staple cotton was not so important, about 30 different uses had been found for cotton, and in view of the potential danger to Indian cotton from the substitution of alternative fibres or decline in prices, the appointment of a Sub-Committee to examine the several uses, other than textile, to which cotton could be put, was suggested.

It was decided that as a first step the Director, Technological Laboratory, with the help of Mr. D. L. Sen, Chemist, should prepare a note on the subject for consideration at the next meeting of the Technological Research Sub-Committee."

The Report of the Special Sub-Committee was adopted.

(5) *"Intensification of efforts to check malpractices and improvement of marketing to ensure that cottons reach spinners in pure condition to enable their being put to optimum use."*

Report of the Special Sub-Committee.—"Attention was drawn to the fact that *Sind 4F* grown on the Right Bank was being brought to the Left Bank for mixing with Sind *Sudhar* and other 289F types which, as a result, got a bad name. It was mixing which was partly responsible for the complaint that Sind cotton was deteriorating. It was a matter of regret that the application of the Cotton Ginning and Pressing Factories Act, which could put a stop to this mixing, was being opposed by ginowners and its repeal urged.

It was emphasised that legislation was necessary to effectively stop the malpractice. It was, however, pointed out that an important seed scheme was being held up pending the application of the Act and that the matter would be emphasised in a Press Communiqué to be issued by the Secretary or otherwise."

It was pointed out that the passing of legislation in the Punjab to control mixing had been held up because of the opinion existing in some quarters that this malpractice could only be controlled by an adequate system of inspection of gins and presses, to which, however, the Provincial Government were opposed. The matter was, however, now being re-examined in the light of the suggestion made by the Committee that the services of the Appeal Committee of the East India Cotton Association should be utilised for the purpose of detecting mixtures of cottons.

The Report of the Special Sub-Committee was adopted and the following Resolution passed :—

RESOLUTION 5.—"The Committee re-iterates the view it has expressed on several occasions that there should be no relaxation of efforts to reduce mixing and other malpractices which prevent certain Indian cottons from being used to the best advantage and which adversely affect the cultivator. It, therefore, recommends that

wherever possible the Cotton Transport Act as well as the Cotton Control Act and the Cotton Ginning and Pressing Factories Act should be applied."

(6) *Import duty on foreign cotton.*

Report of the Special Sub-Committee.—It was stated that there was a general impression in the country that the additional import duty on cotton would promote the cultivation of staple cotton but this view was not shared by the commercial community since the cotton on which the duty would be levied did not compete directly with Indian cotton. It was felt that the duty would not help the cultivator unless it was linked with a corresponding duty on imported cotton yarn and cloth. The doubling of the duty, it was argued, would disable Indian mills, the best customer of Indian cotton, and favour cotton going from India to Lancashire to be spun into yarn and returned to India. It would affect not only the manufacturing industry of India but also the hand weaving industry.

After some discussion the following resolution was passed by a majority :—

" This Sub-Committee is of the opinion that the recent increase in import duty on foreign cotton to be effective in helping the production of long staple cotton in India should have been accompanied by restriction on the import of foreign yarn and cloth or a corresponding increase in duty on such imports."

Dr. Burns abstained from voting.

The Sub-Committee desired that the Secretary should attach to the report of the Sub-Committee a note summarising the opinions expressed at several meetings of the Committee on the above subject. This has been done.

After considerable discussion, the following two resolutions were passed by a majority :—

RESOLUTION 6.—" The Indian Central Cotton Committee desires to place it on record that it has not recommended an increase in the duty on all foreign cotton. It re-iterates the view expressed in 1937 and 1938 that should the parity of Indian and imported cotton move to a point justifying such action the import duty should be increased on all cottons which compete with Indian cotton, i.e., cottons below 1" staple at present."

RESOLUTION 7.—" The Committee is of the opinion that the recent increase in import duty on foreign cotton to be effective in helping the production of long staple cotton in India should have been accompanied by restriction on the import of foreign yarn and cloth or a corresponding increase in duty on such imports."

(7) *Reduction in Railway freight rates on cotton.*

Report of the Special Sub-Committee.—The attention of the Sub-Committee was drawn to the anomaly that freight on cotton from Hyderabad and Mirpurkhas to Bombay was more favourable than that between the former two stations and Ahmedabad. It was argued that this difference could not be justified and that it was detrimental to the interests of the grower. The contention of the Railways had always been that freights on cotton were high because cotton could stand high rates but that was far from being the case at present. Reference was made to the recommendation which had been sent to the Government of India for a general reduction of railway freights but which had not been accepted on the ground that a general reduction, other than on railway traffic considerations, would be indistinguishable from a subsidy to support the cotton market. On a suggestion being made that the matter should again be investigated and a further representation made to Government, it was decided that the subject should be considered at a later date in the light of information that had now become available regarding the cost of growing cotton in India. The Railway authorities asked for facts and figures and the Committee was now in a better position to supply these and take a more direct line of attack in the matter.

The Report of the Special Sub-Committee was adopted.

(8) *Enhancement of import duty on rayon yarn.*

Report of the Special Sub-Committee—The reply of the Government of India that the views of the Committee on the above subject had been noted was considered. The *Vice-President* observed that as the reply was not quite clear as to whether the matter was being investigated by the Government of India or not, the question should be left over for consideration at the full Committee when the President might possibly be able to give further information.

It was noted that the matter was under the consideration of the Central Government.

(9) *Division of areas into zones for growing long, medium and short staple cottons.*

Report of the Special Sub-Committee.—Consideration was given to the suggestion that a series of comprehensive regional trials in several tracts should be conducted to determine the types of cotton most suitable for each tract and which would pay the cultivator best. It was remarked that the work done by the breeders in this connection was not sufficient to enable definite conclusions being drawn. Work on the lines suggested had been done in Russia, U.S.A. and China with very useful results. The view was expressed that though the suggestion in itself was a good one, it was obviously impossible to test all strains at all stations. Countries like Russia and China were starting at an earlier stage than India where a great deal had already been done and which was thus a long way ahead.

The Report of the Special Sub-Committee was adopted.

(10) *Hedging facilities.*

Report of the Special Sub-Committee.—The Sub-Committee considered suggestions (1) for the widening of the Broach Futures Contract to enable all Indian American growths, both roller and saw-ginned, to be tendered against it, (2) for the widening of the Karachi 4F Contract to permit all Punjab and Sind-American types, both roller and saw-ginned, to be tendered against it, (3) for trading to be permitted in the Broach Contract in new crops 2 years ahead, and (4) for the establishment of a separate contract for staple cottons.

In support of the proposals it was urged that Punjab and Sind long staple cottons had at present no suitable hedging facilities and that they could only be tendered against the Broach Contract which, however, was subject to appreciable fluctuations. A separate contract for long staple cottons either in Bombay or Karachi, or at both places, was therefore, desirable.

In regard to the widening of the Broach Contract, it was observed that certain sections of the East India Cotton Association were opposed to the proposal, while the Association itself was of the opinion that the changes referred to would not be effective until unitary control of the futures market was secured. The Committee had already passed a resolution recommending the widening of the Broach Contract but this had not been given effect to and it was now urged that, if necessary, the Government of Bombay should be approached to move in the matter.

In support of the proposal for an alteration in the time for the commencement of trading in a new growth, it was stated that the withholding of the opening of trading in a new crop was taken advantage of by the trade to the detriment of the grower.

The suggestion that saw-ginned American growths should also be made tenderable against the Broach Hedge Contract was considered to be unobjectionable and, it was thought that it would be favourably considered by the East India Cotton Association.

As regards the effect of the broadening of the Broach Contract, the view was expressed that the trade itself was not unanimous, one section favouring it on the ground that it would safeguard prices to the grower, and the other opposing it owing to the possibility of the basic price of the Contract being depressed to the disadvantage of the grower. Attention was, however, drawn to the fact that Kumpta cotton had recently been included in the Contract.

As regards the necessity of unitary control, it was urged that unless this was secured, speculative trading would move towards the Shri Mahajan Association, which was not subject to the decisions of the East India Cotton Association. In

the Mahajan Association, only Broach cotton could be tendered against the Broach Contract while in the East India Cotton Association the tenderable cottons were Broach, Punjab-Americans, Kumptas and others.

The institution of a separate contract for staple cottons was not favoured in the light of the history of certain contracts in the Bombay and Liverpool markets which were hardly traded in.

Regarding the extension of the Broach Contract so as to enable trading in two new crops two years ahead, it was stated that so long as straddle business was being done, the suggestion would not help the cotton grower. After further discussion, it was decided that the matter should be placed before the full Committee for opinion.

It was decided to appoint a Special Sub-Committee to examine this subject and submit a report for the consideration of the Committee at its next meeting.

(11) *Conference of the main cotton growing countries to regulate production and export.*

Report of the Special Sub-Committee.—The general opinion of the Sub-Committee was that India should participate in the proposed World Conference on Cotton Affairs, should it materialize.

The Report of the Special Sub-Committee was adopted with the addition after the word " materialize " of the words " and that the representatives of India should be selected in consultation with the Indian Central Cotton Committee."

(12) *General.*

Report of the Special Sub-Committee.—Mr. Roger Thomas drew attention to the large losses incurred by the grower of White American seed, although work done at the Lyallpur Agricultural College had revealed that there was no appreciable difference either in the nutritive value or the oil content of such seed. He accordingly suggested that investigations should be carried out at consuming centres to discover the cause of the prejudice.

The view was expressed that any investigations in this connection should be entrusted to the marketing officers. It was decided that Mr. Roger Thomas should prepare a note on the subject, which, together with a report on the work done at Lyallpur Laboratory and at Madras, should be sent to the Agricultural Marketing Officer to the Government of India for investigation and advice.

Mr. Parikh emphasised the desirability of the Central Government consulting the Committee on all matters relating to cotton. Referring to the Indo-British Trade Agreement, he stated, that the stipulation of the non-official advisers that 65% of the total cotton taken by the United Kingdom from India should be of short staple had not been accepted, though this condition would have benefited the growers. It was decided that the Indo-British Trade Pact should be discussed at the full Committee.

The Report of the Special Sub-Committee was adopted. The Indo-British Trade Agreement was not discussed.

SUBJECT 13.—*Review of the State of foreign trade in Indian Cotton.*

SUBJECT 14.—*Report of the Wider Markets Sub-Committee.*

It was observed that the principal question considered by the Wider Markets Sub-Committee related to the proposed subsidy of 1.25 to 2 cents per lb. on exports of American cotton and that the following Resolution had been passed :—

" In view of the news received recently to the effect that U.S.A. intend granting an export subsidy for American cotton to the extent of 1.25 to 2

cents per lb. of cotton exported from the U.S.A., this Sub-Committee recommends that the Indian Central Cotton Committee should consider without delay the necessity of the indigenous cotton market being preserved for Indian cotton by urging the Government of India to adequately raise import duties on cloth and yarn in such effective manner as will prevent cloth and yarn made out of bounty-fed American cotton from replacing manufactures of Indian cotton, and to take such other steps in consultation with the Indian Central Cotton Committee as may appear feasible."

The view was expressed that if the proposal for the grant of a subsidy was agreed to, bounty-fed cloth and yarn would come into India from other countries to the detriment of the Indian grower, trader and manufacturer. The mere announcement of the proposed subsidy had resulted in a drop in prices, and if it should finally materialize, all growers, traders and manufacturers who hold stocks of cotton would be seriously affected. It was, therefore, urged that the Indian Government should be ready to put into operation, as soon as required, suitable machinery to counteract the effects of the subsidy.

A suggestion was made that quantitative regulation of cloth should also be imposed; it was, however, pointed out that this might not be possible owing to existing trade agreements. It was urged that the machinery to be adopted should be such as would safeguard not only the 3 million bales of cotton consumed by Indian mills but also the 2 million bales of exportable cottons. Attention was drawn to the danger resulting from the possible purchase of bounty-fed American cotton in preference to Indian cotton by Indian mills; it was pointed out, however, that in time, mills too would suffer as they would have to compete with imports of yarn and cloth made out of bounty-fed American cotton. This showed that the matter was one which affected the entire cotton industry of the country.

After further discussion the following Resolution was passed :—

RESOLUTION 9.—"In view of the news received recently to the effect that U.S.A. intend granting an export subsidy for American cotton to the extent of 1.25 to 2 cents per lb. of cotton exported from the U.S.A., this Committee recommends that Government of India should consider without delay the necessity of the indigenous cotton market being preserved for Indian cotton and urges them to adequately raise import duties on subsidised cotton, cotton cloth and yarn in such effective manner as will prevent cloth and yarn made out of bounty-fed American cotton from replacing manufactures of Indian cotton and to take such other effective steps in consultation with the Indian Central Cotton Committee as may appear feasible."

The Report of the Wider Markets Sub-Committee was adopted.

SUBJECT 15.—*Report of the Technological Research Sub-Committee.*

SUBJECT 20.—*Manufacture of artificial silk from Indian cotton—Reference from the last meeting of the Committee—Present position.*

The Report* of the Technological Research Sub-Committee was adopted.

* Appendix II (page 28).

SUBJECT 25.—**Proposed New Research Scheme—Cotton Breeding Investigations for the production of long staple cottons for cultivation in Sind.*

Reference was made to the fact that the proposals for this scheme had been considered at the Lyallpur meeting and, in accordance with the decision arrived at, these had been revised in consultation with the President and Dr. Burns. The object of the scheme was to see whether a high quality cotton, preferably of the 289*F* type, with better staple than Sind *Sudhar* could be produced under the soil and climatic conditions of Sind. Previous work in Sind and the Punjab had shown that long staple cottons could be successfully grown in India. It was proposed to carry out the work at Mirpurkhas, Oderolal and Sakrand.

Objection was taken to the selection of two of the stations—Oderolal and Sakrand—for the work on the ground that these stations were not suitable for the particular types of cotton it was intended to try.

It was finally decided that the number of stations should be reduced to two, the main one being located at Mirpurkhas and the sub-station at Oderolal. The scheme as modified was sanctioned.

SUBJECT 28.—*Control and direction of Committee's Seed Schemes in the Bombay Province.*

Attention was drawn to the fact that in accordance with a recent Resolution of the Government of Bombay the control of some of the schemes of the Committee would be taken over by the newly created Department of Rural Development and that the Agricultural Department in future would be responsible for only such schemes as involved research and experiment. Under these orders, the Committee's seed multiplication and distribution would pass from the control of the Agricultural Department to that of the new Department of Rural Development.

The view was expressed that as the expenditure of the Committee on the schemes in the Bombay Presidency which it was proposed to transfer to the control of the Rural Development Department amounted to over Rs. 2½ lakhs, it was desirable that the Agricultural Department should continue to be in charge of them as they required expert technical knowledge, supervision and direction. It was proposed that the Committee should discuss with the Bombay Government the arrangements proposed for the technical control of its schemes.

After further discussion, it was finally agreed that the Standing Finance Sub-Committee should be authorised to take such steps as it might deem necessary to ensure that work on the Committee's schemes would continue to be satisfactorily carried out.

SUBJECT 34.—*Convention and Protocol regarding the Commercial Relations between India and Japan—Renewal of—.*

The Committee authorised the Local Sub-Committee to go into the question of the desirability of renewing the Convention and Protocol regarding the commercial relations between India and Japan either as they stand, or in a modified form, or of negotiating an entirely new Agreement.

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* Appendix I (page 20).

Before the business of the meeting terminated, the following Resolution was carried :—

RESOLUTION 10.—" The Indian Central Cotton Committee wishes to place on record its appreciation of the valuable services rendered by Sir Bryce Burt during the past eighteen years of his association with it, first as Secretary, then as member and finally as its President. It feels that the success of the work of the Committee can in large measure be said to be due to his advice, guidance and close attention to problems connected with cotton development in India.

The Indian Central Cotton Committee tenders its grateful thanks to Sir Bryce Burt for his services and offers him its best wishes for a continuously useful and happy life."

The President, in expressing his thanks to the Committee, said that he considered it a privilege to have been able to work for it and although he was leaving with regret it was also with the happy satisfaction of knowing that the Committee was well established and would continue to do most valuable work for cotton in India. He ascribed much of the success of the work of the Committee to the members of the Local and Finance Sub-Committees who had given of their best in the interests of the Committee.

SUBJECTS 8, 9 (*a*) (*b*), 10, 11, 12 (*a*), (*b*) 16, 17, 18, 19, 21, 22, 23, 24, 26, 27, 29, 30 (*a*), (*b*), 31 and 32 were not considered for want of time.

D. N. MAHTA.

RESOLUTIONS.

Better balancing of short and long staple cottons in India.

No.

1 "The Committee is of the opinion that while satisfactory progress in the matter of replacement of short staple cotton by long and medium staple cotton has been made during the past few years, further investigations in this connection appear necessary and the process of better balancing of short and long staple cottons in India should continue. With this object, efforts should be made to obtain fresh breeding material from all possible sources. The Committee feels, however, that the advantages of the change to the cultivator should, at no stage, be overlooked and due consideration should continually be given as to what would be the most paying type of cotton for him to grow in the long run."

Raising the efficiency of cotton cultivation.

2 "The Committee notes that, while as a result of the joint efforts of the Indian Central Cotton Committee and the Provincial Departments of Agriculture, some improvement in the outturn of cotton per acre in India has taken place, the yield still compares very unfavourably with other countries and in many areas is extremely low.

It, therefore, recommends :—

(*i*) the starting in major cotton growing tracts of cotton cultivation projects which would be complete holdings or preferably villages managed and cultivated by the cultivators themselves according to the best system advised by the local Agricultural Department and where the results of research work could be concentrated in practice and demonstrated to growers under cultivators' conditions with the improved type or types of cotton best suited to each tract,

(*ii*) the keeping of accounts giving information as to the expenditure and income of the projects referred to above.

The Committee further recommends that such work should be carried out by the Provincial Departments of Agriculture in collaboration with the Indian Central Cotton Committee in selected holdings or villages."

Collection of fresh breeding material.

3 "The Committee recommends that the President of the Indian Central Cotton Committee should get into touch with the Russian Institute of Plant Breeding, Tashkent, and see what can be done in the way of getting seeds of cotton varieties collected in their present expedition. It is also suggested that the Imperial Bureau of Plant Genetics (Cambridge) be asked to give all possible information and help."

RESOLUTIONS—*contd.*

No.

Thereafter the question of a special expedition should be reconsidered, if necessary."

Co-ordination of the research and seed distribution work on cotton in the various provinces—Appointment of a Technical Assistant Secretary.

4 "That in view of the greater range of work and additional responsibilities which the Secretary of the Indian Central Cotton Committee now has to undertake, it is necessary to implement the decision reached at the 38th meeting of the Committee by the appointment of a Technical Assistant Secretary. The Committee requests the Standing Finance Sub-Committee to take the necessary steps as early as possible."

Intensification of efforts to check malpractices and improvement of marketing to ensure that cottons reach spinners in pure condition to enable their being put to optimum use.

5 "The Committee reiterates the view it has expressed on several occasions that there should be no relaxation of efforts to reduce mixing and other malpractices which prevent certain Indian cottons from being used to the best advantage and which adversely affect the cultivator. It, therefore, recommends that wherever possible the Cotton Transport Act as well as the Cotton Control Act and the Cotton Ginning and Pressing Factories Act should be applied."

Increase in import duty on foreign cotton.

6 "The Indian Central Cotton Committee desires to place it on record that it has not recommended an increase in the duty on all foreign cotton. It reiterates the view expressed in 1937 and 1938 that should the parity of Indian and imported cotton move to a point justifying such action the import duty should be increased on all cottons which compete with Indian cotton, *i.e.*, cottons below 1" staple at present."

7 "The Committee is of the opinion that the recent increase in import duty on foreign cotton to be effective in helping the production of long staple cotton in India should have been accompanied by restriction on the import of foreign yarn and cloth or a corresponding increase in duty on such imports."

Report of the Technological Research Sub-Committee.

8 "That the Report of the Technological Research Sub-Committee, as amended, be adopted."

RESOLUTIONS—*concld.*

No.

Export subsidy for American cotton.

9 "In view of the news received recently to the effect that U. S. A. intend granting an export subsidy for American cotton to the extent of 1·25 to 2 cents per lb. of cotton exported from the U. S. A., this Committee recommends that Government of India should consider without delay the necessity of the indigenous cotton market being preserved for Indian cotton and urges them to adequately raise import duties on subsidised cotton, cotton cloth and yarn in such effective manner as will prevent cloth and yarn made out of bounty-fed American cotton from replacing manufactures of Indian cotton and to take such other effective steps in consultation with the Indian Central Cotton Committee as may appear feasible."

Appreciation of services rendered by Sir Bryce Burt.

10 "The Indian Central Cotton Committee wishes to place on record its appreciation of the valuable services rendered by Sir Bryce Burt during the past eighteen years of his association with it, first as Secretary, then as member and finally as its President. It feels that the success of the work of the Committee can in large measure be said to be due to his advice, guidance and close attention to problems connected with cotton development in India.

The Indian Central Cotton Committee tenders its grateful thanks to Sir Bryce Burt for his services and offers him its best wishes for a continuously useful and happy life."

APPENDIX I.

SUBJECT 25.—*Proposed New Research Scheme—Cotton Breeding Investigations for the production of long staple cottons for cultivation in Sind.*

Secretary's Note.

The Agricultural Research Sub-Committee at its meeting in November last considered proposals forwarded by the Director of Agriculture, Sind, for a scheme for investigation into the causes of decline and measures for development of Sind-Egyptian and Sind Sea-Island cottons involving a total estimated expenditure of Rs. 1,03,075 spread over a period of 5 years and its recommendations, as amended and approved by the full Committee at its meeting held in the same month, were as follows :—

"The Sub-Committee was unanimously of the opinion that the physiological section of the scheme should be completely left out and that attention should be concentrated on the breeding work along with a certain amount of agronomic work such as testing of different sowing dates, spacing, sowing on ridges, etc.

Mr. Roger Thomas said that the possible cause of bad yields might be due to the Sind conditions being agronomically unlike those in Egypt and that it was possible the Stem Borer might also be a contributing factor.

It was considered that one officer of class II was sufficient to look after the reduced scheme and certain other reductions in cost were also suggested which are embodied in the revised budget. The total cost of the scheme for five years now comes to Rs. 59,711.

Mr. Roger Thomas considered that the scheme should provide for trials in all the three zones in Sind. The Sub-Committee considered that in the breeding programme there should be an attempt to collect new material from a much wider range of places, since apparently the possibilities of the already imported Egyptian and Sea Island varieties have been exhausted.

The Sub-Committee, after some discussion, decided that for the successful working of this scheme, it was essential to have a competent Cotton Botanist, who had had long experience in cotton breeding and that the scheme should be revised in the light of the discussion at the meeting and proposals put up at the March meeting of the Committee. It was further suggested that the revised proposals should be sent to the President and Dr. Burns well in advance of the meeting for suggestions."

The decision was accordingly communicated to the Director of Agriculture, Sind, and the attached letter together with revised proposals framed in consultation with the President and Dr. Burns have now been received and are for consideration.

The proposals involve a total estimated expenditure of Rs. 2,28,700 spread over a period of five years. The scheme has also been approved by the Sind Provincial Cotton Committee. The budget estimates are in order.

As regards pay of staff, the Government of India have laid down that men who have not been in continuous service and who are recruited to various posts should be brought invariably on the minimum of the scales, the basis for such pay being the corresponding scales of pay of the respective Departments of Agriculture. The scales of pay proposed for the staff are identical with those of similar posts under the Sind Department of Agriculture.

The policy of the Committee with regard to Research Schemes as laid down at its meeting in February 1935 is as under :—

"(1) Local Departments of Agriculture should, as hitherto, continue to submit research schemes.

(2) A complete and thorough summary of the up-to-date work done and the knowledge gained on the problem in question in other parts of the world should accompany each scheme.

(4) Hereafter the Committee's money should not be spent where provincial money was available.

(5) (*a*) All entomological, mycological and physiological schemes should be scrutinised more thoroughly from the economic point of view.

(*b*) Certain Indian Universities and their constituent Colleges are now better equipped than formerly for research work in these branches of science and should be encouraged to take up problems bearing on cotton cultivation as are adapted to their organisation and equipment.

(6) The Agricultural Research Sub-Committee should, after examining the new schemes, frame a wider programme for the whole of the area having the same problem and decide where the main research should be carried out, and where sub-stations, if necessary, should be opened."

The Committee at its meeting in March 1937 laid down that Research Schemes should be financed up to a period of ten years in full, subject to review at the end of the 3rd, 5th and 8th year.

Copy of letter No. 421-Q-C, dated the 25th February 1939, from the Director of Agriculture, Sind, Karachi, to the Secretary, Indian Central Cotton Committee, Bombay.

SUBJECT.—*Revised Scheme—Sind Egyptian and Sea Island Cottons—Investigation into causes of decline and measures for development.*

I have the honour to invite reference to subject II (*d*) proposed new research scheme for investigation into the causes of decline and measures for the development of Sind Egyptian and Sea Island cottons which was considered at the last (38th) meeting of the Indian Central Cotton Committee held in November 1938 at Lyallpur, and the full Committee decided that it should be revised in the light of recommendation of the Agricultural Research Committee and resubmitted at the next meeting to be held in March 1939. In this connection reference is also invited to your letter No. 2090, dated 16th December 1938.

The main points which the Agricultural Research Committee and the full Committee wished to be brought out in the revised scheme are as under :—

(1) Attention should be concentrated on breeding work along with a certain amount of agronomic work such as testing of different sowing dates, spacing, sowing on ridges, etc.

(2) The scheme should provide for trials in all the three zones in Sind. A suggestion was also made during the course of discussion to consider the advisability of locating the main investigational work in the Thar Parkar District, *i.e.*, round about Mirpurkhas, instead of at Sakrand (Nawabshah).

(3) In the breeding programme there should be an attempt to collect new material from a much wider range of places since the possibilities of the already imported Egyptian and Sea Island varieties have been exhausted. The Chairman further advised that possibility of improvement by hybridisation with the Sind *Sudhar* and other Sind American cottons should be explored.

(4) It is necessary to obtain the services of an experienced officer who has been long connected with cotton breeding work and to provide for special pay for that Officer.

All the above recommendations have been taken into consideration in preparing the revised scheme.

It was further recommended that the revised scheme should first be sent to Dr. Burns and the Chairman for advice. This has been done and the final draft now submitted for further consideration incorporates the valuable suggestions sent by Dr. Burns as the result of his discussion with Sir Bryce Burt. The scheme is presented in three sections :—

SECTION I—Past Experience.

SECTION II—The Scheme—its aim—Programme of work and expenditure.

SECTION III—Note on the position of long stapled quality cottons with regard to yields on Government Farms and spinning tests.

It has been suggested that the Scheme should provide for trials in all the three zones of Sind, and, if possible, to locate the main investigational work in Thar Parkar District. It is now proposed to carry out this work at Sakrand (Nawabshah District —Central Sind), at Oderolal (Hyderabad District—South Sind) and at Jamesabad or Samaro (Thar Parkar District). It would be desirable to have the main investigational work at Sakrand where facilities for land, buildings, laboratory apparatus and library exist and will be provided for by Government of Sind.

The non-recurring expenditure on laboratory apparatus and fittings will amount to about Rs. 15,000 and the recurring expenditure to Rs. 2,13,700 spread over a period of 5 years.

The draft scheme is essentially a cotton breeding scheme which aims at producing a hardy, long stapled cotton, with a staple above 1-1/16" and to promote its spread in the area suited for its cultivation. Sind is the only part of India where such fine and extra long staple cotton can be grown. Hence the scheme is of all-India importance and deserves full support of the Indian Central Cotton Committee. A copy of the note on the position of long stapled quality cottons in Sind with regard to yields on Government Farms and spinning tests circulated at the last meeting of the Committee is also enclosed (Section III).

Sind Egyptian and Sind Sea Island Cotton Scheme—Investigation into causes of decline and measures for development.

REVISED TITLE.

Cotton Breeding Investigation of Fine Cottons and Production of a Long Stapled Cotton suitable for cultivation in Sind.

Section I—Past Experience.

Historical Retrospect.—

Various cotton workers have observed the similarity of Sind to parts of Lower Egypt and the immense possibilities of the cultivation of long staple cottons in Sind. Several attempts from 1846 were therefore made during the latter half of the last century to introduce and acclimatise Egyptian cotton in Sind but unfortunately they proved unsuccessful. The main causes of the failure of these early attempts was ascribed to the inadequate water-supply under the inundation system of canal irrigation in Sind.

The opening of the Jamrao Canal System in 1900, which was intended to supply water on a perennial basis gave an impetus to the reconsideration of the problem of cultivating long staple quality cottons in Sind. Experiments in this direction date from 1904 and were conducted at Dhoro Naro and later at Mirpurkhas Farms. In 1904, some 31,000 lbs. of Egyptian seed were distributed to selected cultivators on the Jamrao Canal. The outturn proved very disappointing and so did the price obtained for it. Though the cultivation was continued during the next 3 years, it eventually ended in a complete failure; the reasons for this may be stated as follows :—

No attempt was made to make selections from the imported seed by acclimatisation but fresh seed was imported from Egypt each year. In certain seasons the crop was badly infested with the boll worm. The water-supply was also unsatisfactory. By 1909 it became evident that in view of the low yields, and poor prices obtained, the cultivation of Egyptian cotton in Sind would not be profitable under the existing conditions, and therefore the Agricultural Department turned its attention to the American cottons. The Indian Cotton Committee (1919) held the view that although attempts at the introduction of long staple quality cotton such as Egyptian and Sea Island, had failed in the past, provided a perennial supply of water was available, no other part of India offered such hopeful prospects of the successful cultivation of long staple cotton as the climate and soil are most suitable.

With the opening of the Agricultural Research Station at Sakrand in 1925 consequent on the inauguration of perennial irrigation in Sind under the Lloyd Barrage and Canal Systems, the introduction of long stapled exotic cottons was taken up seriously by the Department of Agriculture. A few superior varieties of long staple cotton from Egypt and Sea Island from U.S.A. were imported in 1926 and grown by the Botanist at Sakrand. Pure line selections were obtained from these varieties, the promising strains being Sea Island 2-4, Boss III-16 and Ashmouni 27.

(1) *Yields and economics of quality cottons compared with desi and Sind American.*

These strains were grown on a large scale test in Government Auxiliary Farms on the Left Bank from 1933-36. The yields obtained from them as compared with the standard indigenous cottons are presented below :—

Yield of kapas in maunds (80 *lbs.*) *per acre on Government Farms.*

Year.	Sea-Island.	Boss III.	Ashmoni.	Sind N.R. *Desi.*	Sind Sudhar.
1933	6·19	5·41	7·69	13·06	14·7
1934	11·76	9·33	10·25	10·65	13·3
1935	6·02	5·71	8·08	10·75	11·89
1936	5·50	6·55	..	11·34	12·00
Average of 4 years ..	6·87	6·94	8·97	11·58	12·75
Actual price per md. (average of 4 years) in Rs. a. p. ..	40–12–5	39–15–10	32–9–10	26–6–2	19–2–6
Total gross return in Rupees, annas and pies (average of 4 years)	101–13–3	97–1–6	97–15–5	123–7–6	93–2–0

It will be seen that the long staple cottons on an average are capable of giving ½—⅔ yields of the standard *desi* varieties. In spite of the comparative high prices, the net return from quality cotton is low and hence their large scale cultivation does not find favour with cotton growers in general. It must be remembered that these cottons require good land, special preparation of land and more irrigation, on account of which cultivation expenses are high. The reduction in outturn is due to a low stand of crop and not to decreased individual plant yield which on the contrary seems to be greater. Hardiness to withstand local conditions may well be judged by the percentage of stand obtained. It was found that in Egyptian cottons only 24% stand obtained at the time of picking as against 58% in the Punjab-Americans and 75% in Sind *Desi*. The Egyptian cottons are very much susceptible to white-ant attack. The fact that under favourable climatic conditions the acclimatised Sind Egyptians give very high yield point to the inherently high yielding capacity of the Egyptian in Sind. The following statement will show the results obtained on departmental plots :—

Yield per acre of Demonstration Plots (4 *plots in each year*). *Each plot*=1 *acre.*

Year.	Sea-Island 2-4.	Boss III-16.	Ashmoni.
	lbs.	lbs.	lbs.
1933-34	815	887	1,093
1934-35	957	989	1,168
1935-36	580	540	..
1936-37	267	..	..
1937-38	276	..	..

The following yields were obtained on zamindars' lands :—

Year.	Area grown.	Yield of *kapas* per acre in lbs.
1934-35	139	1,035
1935-36	1,400	615
1936-37	1,000	300
1937-38	500	230
1938-39	200	..

(2) *Fibre properties, spinning quality and market value of long staple cottons in Sind.*

Samples of cotton from acclimatised long staple cottons grown at Sakrand were sent to the Technological Laboratory at Matunga. The results are given below :—

Year.	Sea-Island 2-4.		Boss III-16.		Ashmoni 37.	
	Staple ins.	Highest standard warp counts.	Staple ins.	Highest standard warp counts.	Staple ins.	Highest standard warp counts.
1933	1·23	72	1·23	90	1·09	65
1934	1·24	72	1·23	80	1·03	48
1935	1·26	76	1·25	86	1·09	62
1936	1·20	72	1·21	90	..	..

It will be seen that Sea Island and Boss III have remarkably good staple length ranging between 1·20 and 1·26 inches. They are also capable of spinning up to a range varying between 72's and 90's. The Sind Egyptian Ashmoni appears to be definitely inferior.

It was thought desirable to obtain a comparative estimate between the long staple cottons acclimatised in Sind, and those grown in Egypt. For this purpose Giza 7 from Egypt was tested against two Sind varieties at the Technological Laboratory, Matunga, the results of which are present below :—

Variety.	Staple length ins.	Mean fibre weight per inch.	Percentage of mature fibres.	Premium on Broach. Rs.
Giza-7	1·15	0·131	50	140
Sea Island 2-4	1·31	0·114	43	200
Boss III-16	1·30	0·104	69	175

It will be seen that the Sind cottons are longer, finer and fetched a higher premium in the market than Giza-7.

The results of three years' trials commencing from 1935 have clearly established the fact that long staple cottons acclimatised in Sind have maintained a higher level of staple length, fineness and maturity of fibres and are suitable for spinning 60's corded and 70's combed yarn under mill conditions. They also compare very favourably with the imported Egyptians in all respects.

(3) *Botanical Characters.*

The acclimatised long staple cottons in Sind such as the Egyptian and Sea Island combine a higher vegetative as well as reproductive vigour. But the period of vegetative growth in them is considerably longer than that of the other exotics and indigenous cottons and this results in a later production of flowers and bolls. The late maturity of the crop is a definite disadvantage. The cultivation expenses particularly due to irrigation become greater. Insect pests such as the boll worm diminish the yield of seed cotton. A remarkable superiority of the Egyptians over all other varieties of cotton tested in Sind is high efficiency of boll setting and this is recognised as a most desirable character.

(4) *Conclusions drawn from past experience.*

The evidence presented in the preceding paragraphs has proved beyond doubt that Sind is the only Province in India which is eminently suited for the production of long staple quality cottons such as Egyptian and Sea Island. The inherent superiority of these cottons as regards their fibre properties, spinning quality and market value have been indicated. The failure to establish them in the attempts during the latter part of the last century and the first quarter of the present century has been due to inadequate water-supply and lack of material acclimatised in Sind. Since the inception of breeding and acclimatisation work by the Botanist at Sakrand in 1926, and the inauguration of perennial irrigation under the Lloyd Barrage and Canal Systems in 1932, these two obstacles in the development of long staple cottons in Sind, have been removed. In spite, however, of these achievements, long staple quality cottons have not yet established themselves as major components of the cotton crop in Sind. Under exceptionally favourable climatic conditions and fertile soil, they are found to give high yields but under adverse conditions low yields are obtained. This appears to be due to extreme susceptibility of these cottons to environmental factors such as, extremes of temperature, water deficiency in the soil, desiccating action of hot winds, etc. These either individually or collectively seem to result in diminished yield.

It is evident that investigations on high quality cottons is complex and requires knowledge of more than one branch of Plant Sciences and therefore it is necessary that a very experienced research worker of known ability should be found out so that he may be able to give us suitable strains of these cottons capable of being grown under different conditions of soil and weather and find out the causes underlying the difficulties now encountered in the successful cultivation of these cottons.

Section II.—The Scheme—Its aim—programme of work—and estimate of expenditure.

Aim of the Scheme.

The most important problem of the work to be started at once is to see whether a high quality cotton preferably of the 289F type can be produced possessing a better staple than Sind *Sudhar*. The aim would be to produce a cotton longer in staple than 1 1/16″—say about 1 1/8″ and spinning about 60 counts and capable of yielding not less than 6 maunds of seed cotton per acre. The following programme is suggested :—

Programme of work.

(1) The immediate production of hybrids using the back crossing technique between cottons of 289F type and longer staple cottons.

(2) The testing in Sind of the various selections from 289-F (old Trought's and recent productions) which the Punjab Agricultural Department have. Experience has shown that conditions for growth of cottons of 289-F type are more favourable in Sind than in the Punjab. The Cotton Research Botanist (Mr. Mohamed Afzal) has longer staple crosses at Lyallpur who would be requested if he could hand over material, unselected, as a basis of work in Sind.

(3) Importing new material from wide range of places, *e.g.*, Egypt, Sudan, South Africa, U.S.A., Brazil, etc., for acclimatisation and selection. It is unlikely that the importation of highly specialised long staple Egyptian and American cottons will provide what we want. We must search for unselected Egyptian or American cotton showing real genetic variability to serve as a suitable basis for selection work and later breeding.

(4) Working out a system of cultivation most suited for long stapled cotton, *e.g.*, preparatory tillage—growings on ridges versus flat—time of sowing —distance of plotting—interculture—irrigation—picking and storing until it goes to the factory.

Expenditure.

	1st year.	2nd year.	3rd year.	4th year.	5th year.
	Rs.	Rs.	Rs.	Rs.	Rs.
I. *Pay of Officers.*					
Cotton Botanist Class I service. Scale 300–20–420–E. B.–30–660 E.B.–40–900 starting pay according to qualifications upto maximum with over-seas pay for non-Asiatics at Rs. 300. Provision made at Rs. 1,200 p.m.	14,400	14,400	14,400	14,400	14,400
1 Senior Asstt. Class II service to be located at Main Station starting pay according to qualifications. Provision made at Rs. 250 p.m. in the scale of 170–10–250–E.B.–15–400–E.B. 20–500	3,000	3,180	3,360	3,540	3,720
II. *Pay of Establishment.*					
1 Junior Asstt. Scale 160–10–260; to be located at Main Station	1,920	2,040	2,160	2,280	2,400
2 Junior Asstts. scale 110–8–150 to be located at Sub-station ..	2,640	2,832	3,024	3,216	3,408
4 Fieldmen 30–5/2–80	1,440	1,440	1,680	1,680	1,920
1 Accounts Clerk & typist 80–5/2–95..	960	960	1,020	1,020	1,080
3 Peons at Rs. 16 p.m.	576	576	576	576	576
Total	24,936	25,428	26,220	26,712	27,504
III. Provident Fund @ 1/12th of Total pay	2,078	2,119	2,185	2,226	2,292
IV. Leave Salary	1,600	1,690	1,800	1,890	2,000
Total	28,614	29,237	30,205	30,828	31,796
V. Travelling Allowance	3,000	3,000	3,000	3,000	3,000
VI. *Contingencies.*					
(*a*) non-recurrent	15,000	..	..	..	..
(*b*) Recurrent	9,600	9,600	9,600	9,600	9,600
	56,214	41,837	42,805	43,428	44,396
Rounded to	56,220	41,840	42,810	43,430	44,400
Grand total for 5 years ..	..Rs. 2,28,700.				

CONTINGENCIES.

(A) *Non-recurrent.*

(*a*)	Apparatus for breeding work	Rs. 2,000
(*b*)	Apparatus for soil science work	Rs. 6,000
(*c*)	Meteorological Instruments for three Stations (main Station at Mirpurkhas and two sub-stations at Oderolal and Sakrand)	Rs. 4,500
(*d*)	Laboratory fittings	Rs. 2,000
(*e*)	Books	Rs. 500
		Rs. 15,000

B. *Recurrent expenditure under contingencies.*

Cultivation charges.

(*a*)	Main Station	Rs. 3,000		
(*b*)	Two Sub-stations..	Rs. 3,000		Rs. 6,000
(*c*)	Office expenses and miscellaneous ..		Rs. 1,200	
(*d*)	Service Postage		Rs. 200	
(*e*)	Purchase of dead-stock		Rs. 300	
(*f*)	Working expenses of laboratory (chemicals glassware, etc.)..		Rs. 1,000	
(*g*)	Other supplies and services		Rs. 900 ..	Rs. 3,600
				Rs. 9,600

Budget estimates as sanctioned by the Committee.

Expenditure.

	1st year.	2nd year.	3rd year.	4th year.	5th year.
	Rs.	Rs.	Rs.	Rs.	Rs.
I. *Pay of Officers.*					
Cotton Botanist Class I service. Scale 300–20–420–E.B.–30–660 E.B.–40–900 starting pay according to qualifications upto maximum with over-seas pay for non-Asiatics at Rs. 300, Provision made at Rs. 1,200 p.m.	14,400	14,400	14,400	14,400	14,400
1 Senior Asstt. Class II service to be located at Main Station starting pay according to qualifications. Provision made at Rs. 250 p.m. in the scale of 170–10–250–E.B.–15–400–E.B.–20–500	3,000	3,180	3,360	3,540	3,720
II. *Pay of Establishment.*					
1 Junior Asstt. Scale 160–10–260, to be located Main Station ..	1,920	2,040	2,160	2,280	2,400
1 Junior Asstt. scale 110–8–150 to be located at Sub-station ..	1,320	1,416	1,512	1,608	1,704
4 Fieldmen 30–5/2–80	1,440	1,440	1,680	1,680	1,920
1 Accounts Clerks & typist 80–5–2–95	960	960	1,020	1,020	1,080
3 Peons at Rs. 16 p.m.	576	576	576	576	576
III. Provident Fund @ 1/12th of Total pay	2,078	2,119	2,185	2,226	2,292
IV. Leave Salary	1,600	1,690	1,800	1,890	2,000
V. Travelling Allowance ..	3,000	3,000	3,000	3,000	3,000
VI. *Contingencies.*					
(*a*) Non-recurrent	15,000	..	..	..	..
(*b*) Recurrent	9,600	9,600	9,600	9,600	9,600
Total	54,894	40,421	41,293	41,820	42,692
Rounded to	54,960	40,420	41,300	41,820	42,700

Grand total for 5 years .. Rs. 2,21,140.

Contingencies.

(A) *Non-recurrent.*

		Rs.
(*a*)	Apparatus for breeding work	2,000
(*b*)	Apparatus for soil science work	6,000
(*c*)	Meteorological Instruments for three Stations (main Station at Mirpurkhas and two sub-stations at Oderolal and Sakrand) ..	4,500
(*d*)	Laboratory fittings	2,000
(*e*)	Books	500
	Total	15,000

B. *Recurrent expenditure under contingencies.*

Cultivation Charges.

(*a*)	Main Station	..Rs. 3,000		
(*b*)	Two Sub-stations	,, 3,000		Rs. 6,000
(*c*)	Office expenses and miscellaneous	Rs.	1,200	
(*d*)	Service Postage	,,	200	
(*e*)	Purchase of dead-stock	,,	300	
(*f*)	Working expenses of laboratory (chemicals glass-ware, etc.)	,,	1,000	
(*g*)	Other supplies and Services	,,	900	Rs. 3,600
	Total			9,600

APPENDIX II.

SUBJECT 15.—*Report of the Technological Research Sub-Committee.*

The Technological Research Sub-Committee met at 2-45 p.m. on Thursday, the 30th March 1939.

The report of the Director on the work done at the Conference of Technological Assistants was recorded.

The Minutes of the Second Conference of Practical Carders and Spinners and the Senior Staff of the Laboratory were recorded. It was decided that, with a view to determining what allowance should be made for tests carried out at the Laboratory when compared with similar tests conducted by mills, the Director should purchase a bale each of Broach, 289F, Jayawant and Oomras and carry out tests on them at the Laboratory, at the same time sending a 100-lb. sample of each to two or three mills for similar tests for purposes of comparison.

It was decided that graded samples of linters should be obtained from the U.S.A. by the Director, Technological Laboratory, who should also send samples of Indian linters to America for correct grading and valuation.

The Sub-Committee considered the report of the Special Sub-Committee appointed to draw up an alternative scheme for carrying out investigations for improving the ginning of Indian cottons, and approved of its recommendation involving an estimated non-recurring expenditure of Rs. 24,500 and a recurring grant of Rs. 4,600 per annum.

The programme of work proposed was also approved.

The Sub-Committee approved of the proposed changes in the speed frames at the Laboratory involving a total cost of Rs. 570 to be met from the reserve of Rs. 2,500 under the Recurring Grant in the budget of the Laboratory for 1939-40.

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OF THE

Fortieth Meeting

OF THE

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Bombay,

HELD ON THE

3rd and 4th August 1939.

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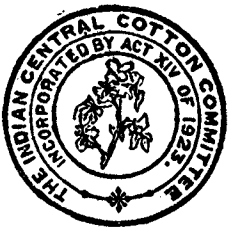

INDIAN CENTRAL COTTON COMMITTEE.

With the Secretary's compliments.

Vulcan House, Nicol Road,
Ballard Estate,
Fort, Bombay.

INDIAN CENTRAL COTTON COMMITTEE.

40TH MEETING—3RD AND 4TH AUGUST 1939.

(Held at Vulcan House, Ballard Estate, Fort, Bombay.)

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Present :

Mr. P. M. Kharegat, C.I.E., I.C.S., (*President*),
Sir Chunilal V. Mehta, K.C.S.I., (*Vice-President*),
Sir Purshotamdas Thakurdas, C.I.E., M.B.E.,
Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,
Dr. W. Burns, C.I.E.,
Mr. S. D. Saklatvala, M.L.A.,
Dr. T. E. Gregory,
Mr. Kasturbhai Lalbhai,
Lala Shri Ram,
Mr. V. Ramdas Pantulu,
Rai Bahadur S. V. Kanungo,
Mr. J. Vonesch,
Mr. H. R. Stewart, C.I.E., I.A.S.,
Mr. P. H. Rama Reddi, I.A.S.,
Mr. W. J. Jenkins, C. I.E., I.A.S.,
Mr. R. G. Allan, C.I.E.,
Mr. R. H. Hill, I.A.S.,
Mr. Vishnu Sahay, I.C.S.,
Mr. T. R. Low, I.A.S.,
Rao Saheb K. I. Thadani,
Mr. M. S. Durutti,
Mr. W. S. Priestley,
Mr. Chandulal P. Parikh,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. Nizam-ud Din Hyder,
Rao Bahadur V. Ramanatha Ayyar,
Seth Isserdas Varindmal, M.L.A.,
Mr. Chellaram Shewaram,
Mr. T. G. Rama Iyer,
Sardar D. K. Jadhav,
Capt. S. R. Pocock, M.C., M.L.A.,
Rai Bahadur Lakshmi Raj Singh, M.L.C.
Sardar Bahadur Gurbachan Singh, M.L.A.,
Mr. M. B. Patel, M.L.A.,
Rao Saheb P. V. Deshmukh,
Mr. Y. R. Joshi,
Ch. Mohammad Yasin Khan, M.L.A.,
M.R.Ry. V. C. Palaniswami Gounder, Avl., M.L.A.,
M.R.Ry. H. Sitarama Reddy Garu, M.L.A.,

Mr. G. P. Chakravarty,

Mr. H. B. Rajdev,

Chaudhari Shivamangal Singh, M.L.A.,

Dr. B. L. Sethi,

The Secretary (Mr. D. N. Mahta).

By invitation.

Mr. M. D. Williams,

Professor P. C. Mahalanobis, Professor of Statistics, Calcutta University, Calcutta.

Mr. J. N. Ghosh, Deputy Director of Statistics, Calcutta,

Mr. R. G. Saraiya, J.P., C/o Messrs. Narandas Rajaram & Co., Bombay,

Dr. Nazir Ahmad, O.B.E., J.P. (Director, Technological Laboratory, Matunga, Bombay),

Prof. R. H. Dastur, Plant Physiologist, Lyallpur,

Mr. C. J. Bocarro (Assistant Secretary),

Mr. Mazhar Husain, Director of Statistics, H.E.H. the Nizam's Government, Hyderabad,

Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,

Mr. Mohammad Afzal, Cotton Research Botanist, Lyallpur,

Mr. K. V. Joshi, Deputy Director of Rural Development, Poona,

Mr. Jamnadas Ramdas, C/o Messrs. Dossa & Co., 397 Marwari, Bazar, Bombay,

Mr. T. B. Dalal, Secretary, Karachi Cotton Association, Ltd., Karachi.

Letters or telegrams were received from the following members regretting their inability to attend the meeting :—

The Director General of Commercial Intelligence and Statistics, Calcutta,

Mr. Roger Thomas,

Mr. Balak Ram.

President's Speech.

Gentlemen,

It gives me great pleasure to welcome you to the 40th meeting of the Indian Central Cotton Committee. You will, I am sure, join me in offering our congratulations to Messrs. Stewart, Jenkins, Gurbachan Singh and Deshmukh on the honours conferred on them in the last Honours List. There have also been a few changes in the personnel of the Committee since its last meeting. Mr. Priestley takes the place of Mr. Darlow, Mr. Bambridge of Mr. Nuttall and the Hon'ble Mr. Pantulu and Mr. Hill replace Messrs. Jamshed Nusserwanji and Mr. McDougall, respectively. To these new members we may extend a hearty welcome and we may place on record our thanks to the members who have retired for the work they did on the Committee. I have no doubt that you would all like me to convey to Sir Bryce Burt our thanks for the keen interest shown by him in the work of the Committee; he was connected with it

since its inception and I am sure we shall all miss him. Owing to my lack of intimate knowledge of the cotton industry, I naturally feel some hesitation in addressing a body of experts, but I understand that it is the usual custom for the President to make a few remarks and that I cannot be excused from doing so.

Perhaps the matter which is uppermost in the minds of all connected with the cotton industry at present is the question of the subsidy on American Cotton. It is true the subject was discussed at some length at the last meeting of the Committee but since then the situation has altered owing to the conclusion of the Indo-British Trade Agreement. The point for consideration now is what action this Committee would like to recommend bearing in mind the terms of the agreement.

I need not of course refer to the various points brought out in the previous discussion. I think it is generally realised that the effect of the subsidy will be to lower the price of Indian cotton, though perhaps not to the full extent of the subsidy; and to this extent, it is the Indian cotton grower who will suffer. The consequences of the subsidy on the manufacturer are perhaps not quite as clear; for, it can be argued that as cotton will be cheaper both in India and abroad, the relative competitive position of the Indian manufacturer may not be adversely affected. Be that as it may, everyone will agree that anything that may be found possible and practicable should be done to prevent loss to the cotton grower and to the industry as a whole.

But the nature of the action to be taken presents many difficulties. At the last meeting it was suggested that the import duties on cotton, yarn and piecegoods should be enhanced. The point for consideration now is whether the situation could be met, even partially, if the proposed enhancement is confined only to such cases as would not conflict in any way with the terms of existing trade agreements. It has to be borne in mind in this connection that where a trade agreement provides for a limit to imports, an increase of the import duty may not be quite as urgent or necessary as in other cases; but the point is for the consideration of the Committee.

Arising from this aspect of the matter is the further question as to the extent to which Indian mills can consume Indian cotton. The situation in which our cotton grower has to depend largely on the export market is fraught with dangers. In the interests of the cultivator, it is necessary that the problem should be examined in all its bearings. Replacing short staple cotton by long staple will certainly help to some extent; but our imports of the latter are only five lakhs of bales, while our exports average over thirty-two lakhs. It appears to be advisable either to arrange for an assured market for our short staple cotton or to restrict its area. Speaking as a layman, it appears to me necessary that our mills should make more use of short staple cottons; and so long as our people are underclothed, no question of restricting the cotton area should arise, especially if cheap cotton goods can be made available to the people. Perhaps the Committee may like to consider the problem and make suitable suggestions in due course.

In this connection I cannot refrain from referring to a suggestion that has been made in certain quarters that a minimum price should be fixed for cotton. The matter cannot be ignored and this Committee appears to be well constituted to examine the proposal or more correctly the idea, on its merits. If the suggestion is not feasible or is impracticable,

the reasons for the same may well be stated; if, on the other hand, there is anything in it, the conditions under which it can be made workable will have to be thrashed out. I may perhaps make it clear that I am not advocating the proposal; all I wish to suggest is that it should be carefully looked into by a body of experts like the Cotton Committee.

Another matter which appears to require the attention of the Committee is the best method of storage of cotton under Indian conditions. I understand that experiments are being conducted at the Technological Laboratory to ascertain the effect of storage conditions on cotton. Thereafter it may be worth while investigating the practical application of the experiments on a commercial scale, especially for storage of cotton up-country.

Turning next to the agricultural aspect, it must perhaps be admitted that research in connection with the prevention and cure of diseases has not so far had any striking results; but a great deal of useful work has been done in evolving new varieties and in distributing the same. From the commercial point of view it is advisable to have only one variety in a particular area; but the agriculturist wants different types of cotton to suit the nature of his soil; perhaps more work is needed to co-relate the type of the cotton used to the quality of the soil so that a suitable balance may be struck between the requirements of the trade and of the cultivator.

At the last meeting of the Committee it was resolved to try and encourage model projects. It is for consideration whether such projects can be effectively carried out if they are confined to one crop only like cotton. The basic idea appears to be that the project must embrace the whole of the cultivation carried out by a group of villages; it must therefore embrace all the crops grown and accordingly it is perhaps necessary to work out a scheme for the purpose in consultation with the Imperial Council of Agricultural Research. The possibility of co-operative farming may also be explored in this connection in order to bridge the gap between the experimental station and the cultivator. If the latter can be given a guarantee against loss, if any, resulting from his acceptance of the advice of the experts, he would perhaps be more willing to try out new methods and ideas than he is at present.

These and other matters have been considered to some extent by the different Sub-Committees which met during the past few days. Their reports are before you and I am sure you would like me to thank them for the work they have done which has both simplified and minimised our labours. The reports of the Standing Finance and Local Sub-Committees indicate how well the day to day administration of the Committee has been looked after by these two Sub-Committees. Both on your and my own behalf I wish to acknowledge our debt of gratitude to members of these Sub-Committees. If you agree we will take up the items on the agenda in the order in which they appear therein instead of dealing with the report of each Sub-Committee separately.

SUBJECT 2.—*Confirmation of Minutes.*

The Minutes of the previous meeting held on the 31st March 1939 were confirmed.

SUBJECT 3.—*Changes in personnel of the Committee and Sub-Committees.*

The Secretary's note was recorded.

The recommendation of the Agricultural Research Sub-Committee that Messrs. J. Vonesch and M. S. Durutti be appointed members of that Sub-Committee in the vacancies caused by the retirement of two members was accepted.

SUBJECT 4.—*Appointment of cotton growers' representatives of the Committee on the Board of Directors of the East India Cotton Association and reports of members.*

The reports submitted by the Committee's representatives on the Board of Directors of the East India Cotton Association were recorded.

Sardar Bahadur Gurbachan Singh, Mr. H. Sitarama Reddy and Sardar Rao Bahadur Bhimbhai R. Naik were appointed by ballot as representatives of the Committee on the Board of Directors of the East India Cotton Association for the cotton year 1939-40.

SUBJECT 5.—*Cotton Transport Act*—(a) *Amendment of Rules—Notification by Bombay Government.*

The Bombay Government's notification constituting the Olpad Taluka and part of the Chorasi Taluka north of the river Tapti into a separate protected area under the Cotton Transport Act was recorded.

(b) *Application of the Act to Gwalior State.*

The notification of the Government of India prohibiting the importation of Rajputana cotton from certain railway stations in British India into the districts of Gwalior State declared to be protected areas under the Cotton Transport Act, was recorded.

SUBJECT 6.—*Establishment of regulated cotton markets.*

The Secretary's note, indicating the progress made in the establishment of regulated cotton markets in the Provinces of Bombay, Madras and the Central Provinces and Berar, was recorded.

It was noted that in the Bombay Province three new regulated markets were established, one each at Nargund, Gadag, and Hubli, and that the Madras Government had declared the Nandyal and Adoni Municipalities as notified areas under the Madras Commercial Crops Markets Act.

SUBJECT 7.—*Application of Cotton Ginning and Pressing Factories (Bombay Amendment) Act,* 1936 *to Sind.*

The application of the Act to Sind was opposed on the grounds that similar legislation had not been put in operation in the Punjab and that the supply of pure seed was inadequate for distribution to cultivators who would not, in consequence, be benefited by the Act. It was also urged that the mixing of cotton, which was reported to be taking place, was due to natural mixing or to mixing of different pickings of the same variety, and not to deliberate mixing by gin-owners who should, therefore, not be penalised on this account. Further, owing to irregularity of canal water supply, American and *desi* cotton had to be grown side by side and this also resulted in mixtures.

In urging the desirability of the application of the Act to Sind, stress was laid on the fact that Sind cotton was reported to be deteriorating and this was ascribed to the mixing of cotton that was taking place

and which the Act was intended to stop. The Indian Central Cotton Committee had always stood for the maintenance of purity of Sind cottons which was in the best interests of the grower. The application of the Act to Sind should not be made dependent on its application to the Punjab, which Province, however, already had the subject under consideration. If mixing were allowed to continue, the reputation of Sind cotton would be lost. As regards the difficulty pointed out regarding the irregularity of canal water supply, it was observed that this had now been overcome.

The following resolution was passed by a majority :—

RESOLUTION—"The Indian Central Cotton Committee expresses its disappointment at the decision of the Sind Government to postpone the application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act and the Rules to the next year and desires to reiterate its oft-expressed view that in the interests of the reputation of Sind cotton in the Indian market and in the markets abroad, and in order that the malpractices of mixing and adulteration may be stopped in the newly developed cotton areas in Sind, the Act and the Rules framed thereunder should be brought into force without further loss of time.

The Committee is further of the opinion that the Sind Government should be intimated that the contribution of the Central Cotton Committee towards Sind Seed Distribution and Extension Scheme would be considered in the light of the action taken by the Sind Government on this resolution."

SUBJECT 8.—*Report on the fumigation of American cotton.*

The Secretary's note was recorded.

SUBJECT 9.—*Summary* of Proceedings of the Local Sub-Committee.*

With reference to paragraph 8 of the Proceedings, it was decided that the Secretary should inform the Government of India that the Committee attached great importance to the question of the import of rayon and that steps should be taken immediately to adequately increase the duty on rayon so as to restrict its import into India.

In regard to paragraph 16 of the Summary Proceedings, the suggestion was made that the duty on cloth and yarn should be raised and the extra money obtained thereby utilised for giving a subsidy on exports of Indian cotton. It was further suggested that railway freight and shipping charges should be reduced.

Reference was made to the American subsidy on cotton exports and its effects on the cotton growers of India. It was agreed that the Indian cotton grower would be hard hit by the subsidy as he would receive lower prices for his cotton. His purchasing power would, in consequence, be seriously reduced and this, in turn, would adversely affect the mill industry which, in addition, would have to compete with imported yarn made from subsidised cotton. There was also the danger that subsidised American cotton would usurp the internal market for Indian cotton. The export of Indian cotton to foreign countries would also be seriously affected by the subsidy as such countries would be able

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to obtain subsidised cotton cheaper. The extreme urgency of the matter was stressed and it was suggested that immediate action should be taken to protect the Indian cotton grower from the effects of the dumping of yarn and cloth made out of bounty-fed cotton and that to this end the Government of India should be pressed to invoke the relevant Articles in the Indo-British Trade Agreement and the Indo-Japanese Trade Pact in order to increase the duties on piece-goods from Great Britain and Japan. It was also suggested that a countervailing duty should be put on all imported subsidised cotton, cloth and yarn coming into India. Against these suggestions it was urged that action on the part of India on the lines indicated might result in retaliation against the exports of jute products to the U. S. A. Further it had to be considered whether the imposition of countervailing duties would not, in effect, destroy to a greater or lesser extent the existing markets for Indian cotton in Japan or the United Kingdom. These two countries, which were the largest exporters of piece-goods into India, were at the same time the largest importers of Indian short staple cotton. America also took short staple Indian cotton to the extent of 40,000 to 50,000 bales. In regard to the proposal that the duty on cloth made from subsidised cotton should be raised, it was pointed out that difficulty would be experienced in distinguishing between cloth made from subsidised cotton and cloth made from unsubsidised cotton. A suggestion was then made that instead of taking the action proposed, a resolution should be framed expressing regret that nothing had apparently been done so far on the resolution passed by the Committee at its last meeting, reiterating that resolution and asking the Government of India to receive a delegation from the Committee.

After further discussion, a Special Sub-Committee was appointed to examine the whole question and report to the main body. The recommendations of the Special Sub-Committee were considered by the Committee on the following day and, after considerable discussion, the following resolution was passed by a majority :—

RESOLUTION—"In the opinion of the Indian Central Cotton Committee a very grave situation has arisen as a result of the grant by the U.S.A. of a subsidy on exports of American cotton. The Committee accordingly recommends to the Government of India, in the interests of the cotton grower, to take immediate steps to give effect to the following measures :—

(1) The grant of subsidy by America has so changed the situation and the conditions now facing the Indian cotton grower are so serious as to make it necessary for the Government of India to bring into operation Article 4 of the Indo-Japanese Trade Pact and Article 15 of the Indo-British Trade Agreement with a view to adequately increasing the import duties on cotton cloth from Japan and the United Kingdom or restricting the quantity of cloth imported from these two countries.

(2) Heavy import duty should be immediately imposed on all yarn imported into India.

(3) Adequate import duty should be imposed on all artificial silk cloth and yarn so as to effectively restrict their importation into India.

(4) A Barter agreement should be arranged with the United Kingdom to take off the Indian market a definite quantity of Indian cotton for war reserve purposes.

(5) This Committee is further of the opinion that Japan should undertake to regulate its offtake of Indian cotton so that its shipments may be fairly evenly distributed over the year and not left to the tail end of the crop movement before making its purchases.

If the above recommendations are accepted by Government and it is considered desirable to enhance duties on imported cotton which competes or is capable of competing with Indian cotton with a view to increasing the use of Indian cotton in mills in India, the Indian Central Cotton Committee will be prepared to depute a Committee of its members to discuss the question."

SUBJECT 10.—*Punjab Agricultural Produce Markets Act.*

It was noted that the Punjab Agricultural Produce Markets Bill was passed into law in April 1939.

SUBJECT 11.—*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee.*

The Proceedings were recorded.

SUBJECT 12.—*Report of the meeting of the Cotton Forecast Improvement Sub-Committee held on 30th March 1939—Confirmation of—*

The Report of the meeting of the Cotton Forecast Improvement Sub-Committee held on the 30th March 1939 was confirmed.

SUBJECT 13.—*Bombay Cotton Forecast Improvement Scheme—Final Report on.*

The final report on this scheme was considered by the Cotton Forecast Improvement Sub-Committee which reported on it as follows :—

"It was decided that the report as amended should be published by the Indian Central Cotton Committee and that copies should be forwarded to the forecasting authorities of the Provinces and States, whose attention should be drawn to the recommendations contained in the report.

As regards the question of the substitution of a direct quantitative estimate of the crop in place of the existing anna valuation, it was suggested that the procedure followed in the Punjab of estimating the crop from the acreage and the quantitative yield per acre might be extended to other Provinces where the anna valuation (or condition factor) system was in vogue. In view, however, of the revolutionary character of the change proposed, it was decided that no specific recommendation to this effect should be made.

The proposal of Mr. Durutti for the appointment in each Province of a Committee consisting of Government Officers and trade representatives for the examination of the Government forecasts before publication was considered and it was decided that its adoption was impracticable for various reasons."

The Report of the Sub-Committee was adopted.

SUBJECT 14.—*Revision of standard yield figures for cotton—Proposed co-ordinated scheme for crop-cutting experiments on cotton—Reference from last meeting of Cotton Forecast Improvement Sub-Committee.*

This subject was first discussed by a Special Sub-Committee whose report was considered by the Cotton Forecast Improvement Sub-Committee. The recommendation of the Sub-Committee is contained in the following extract from its report :—

> " It was decided that the report should be circulated to Provincial and State Directors of Agriculture and other officers ultimately responsible for the collection of the data in question with a view to eliciting opinions, and that the final consideration of the subject should be deferred to the next meeting of the Committee. It was further decided that, in the meantime, the views of the officers consulted should be analysed by a small Sub-Committee which might meet at the time of the next meeting of the Indian Central Cotton Committee."

SUBJECT 15.—*Report of Cotton Forecast Improvement Sub-Committee.*

The recommendations of the Cotton Forecast Improvement Sub-Committee on other subjects considered by it are contained in the following extract from its report :—

" The Secretary's note on the *post-mortem* examination of the Madras cotton forecasts for the season ending 31st January 1939 was recorded. It was noted that the actual crop of the Madras Province amounted to about 555,000 bales against 505,000 bales forecasted.

The Secretary's note on the Revised trade classification of Indian cottons was considered and it was noted that the classification, as recommended by the Committee, had been approved by the Government of India and would be given effect to in the ensuing season, commencing with the first cotton forecast of 1939-40.

The Sub-Committee considered the objection raised by the East India Cotton Association to the inclusion of cotton grown in the (1) Jhalawar and Partabgarh States and Sironj, Chhabra and Pirawa Parganas of Tonk State under " Central India " instead of under " Rajputana *deshi*," (2) the Phaltan State, Atpadi Mahal of Aundh State and Manpeta of Satara district under " Kumpta and Uplands " instead of under " Barsi-Nagar Oomras " and (3) the Akalkot State under " Barsi-Nagar Oomras " instead of under " Hyderabad Oomras." In view of the fact that the revised classification had already been approved by the Government of India, it was decided that the Association should be informed that the points would be considered, if necessary, after the revised classification had been given a trial for a year or two."

The Report of the Sub-Committee was adopted.

SUBJECT 16.—*Report of Special Sub-Committee on Hedging Facilities.*

The following report of the Special Sub-Committee on Hedging Facilities was adopted :—

"The Special Sub-Committee which was appointed at the meeting of the Indian Central Cotton Committee in March last to examine and report on the subject of the provision of better hedging facilities for Indian cotton met on the 2nd August 1939. The discussions covered the following main points :—

(*i*) Whether the present restrictions in regard to the permissible periods for futures trading in the Broach Hedge Contract should be withdrawn.

(*ii*) Whether trading should be permitted in the Broach Contract for more than 12 months ahead and, if so, for what period and, when the proposal should be given effect to.

(*iii*) Whether the Fine Oomra Contract should be broadened so as to include the whole of the Oomra crop, and trading be permitted one full year ahead.

(*iv*) Whether the Hedge Contracts should be revised so as to provide better hedging facilities for staple cottons.

In regard to item (*i*), it was agreed that the withdrawal of all restrictions in regard to futures trading was undesirable from every point of view.

As regards (*ii*) it was generally agreed that a recommendation should be made to the East India Cotton Association to permit futures trading in the Broach Futures Contract in March and 14 months ahead of the April-May delivery period. It was further decided that the East India Cotton Association should be requested to give immediate effect to this recommendation and that it was unnecessary to wait until the question of unitary control was finally settled.

The Sub-Committee considered that the option at present exercised by the East India Cotton Association under which they are empowered to permit trading in the Broach Hedge Contract one month ahead under certain circumstances should be withdrawn. The exercise of this option would automatically drop out should the proposal for trading 14 months ahead be agreed to.

With regard to the question of widening the Oomra Contract so as to include the whole of the Oomra crop (item *iii*), it was felt that the time was not ripe for the consideration of such a step owing to the present abnormal conditions in the cotton trade. It was thought that when normal conditions are restored the matter could be taken up.

In regard to item (*iv*), it was agreed that a recommendation should be made to the East India Cotton Association to take early steps to revise the Hedge Contracts so as to secure better hedging facilities for staple cottons."

SUBJECT 17.—*Report on Survey of Baluchistan Cottons.*

The survey was carried out in June 1938 in order to obtain first hand information on cotton growing in Baluchistan and to ascertain whether or not it was necessary to place any restriction on the imports of *kapas* and cotton seed from Baluchistan into Kathiawar ports as a safeguard against the introduction of new pests into India.

The Agricultural Research Sub-Committee considered the report and recommended as follows :—

"The Agricultural Researeh Sub-Committee considered and approved the Survey Report.

It was agreed to recommend that if such surveys were carried out in future more attention should be given to the collection of information and material which would be useful to plant breeders in other parts of India. The Sub-Committee further recommended that the material resulting from this particular survey should be tested in areas in India suitable for the growing of *herbaceum* cottons.

In the opinion of the Sub-Committee the report did not indicate that any change was needed in the present policy of the Committee with regard to the importation of *kapas* and seed into India."

The recommendation of the Sub-Committee was adopted.

SUBJECT 18.—*Progress Report on Broach Cotton Breeding Scheme.*

This scheme, which was sanctioned in December 1931 for a period of five years, started work in April 1932 and was extended in August 1936 for a further period of five years. Its original object was to obtain, by selection or hybridization, suitable types of cotton possessing wilt-resistant, high-yielding, high-ginning and superior spinning qualities, to replace the local mixture, a large proportion of which is *Goghari*, a short staple variety with high ginning percentage of 40. In view, however, of the recent change in the Committee's policy to replace quickly, wherever possible, short staple cotton with medium and long staple cotton, efforts are now being concentrated on wilt resistance, high yield and fibre length. Less attention is being paid to the ginning percentage at present, as the combination of all the four qualities would entail more time.

The Progress Report on the scheme was considered by the Agricultural Research Sub-Committee, which reported as follows :—

"The Sub-Committee noted that one of the crosses, *viz.*, B. D. 8 X S. 7-1-F6 had turned out to be better than either parent in respect of wilt resistance, ginning percentage and staple and that out of this Dr. Uppal had been able to make isolations which had proved 100 per cent. wilt resistant over two years. In fact, out of all crosses and B. D. 8 and N. S. 12, types had been isolated which gave 100 per cent. wilt resistance. Referring to the last column " Yield " of the table at page 5 of the cyclostyled report, the Sub-Committee desired information regarding the area or number of plants to which these yields related and whether they had any significance.

On page 4 of the cyclostyled report, the paragraph on the effect of wilt infection on ginning outturn was the subject of comment. The Sub-Committee considered that the number of bolls per plant, the number of seeds per boll and the lint and seed weight should be investigated before any further statements regarding the effect of wilt on ginning percentage were made.

The Sub-Committee noted that in the work directly under Dr. Uppal the investigation on the inheritance of wilt resistance had shown that wilt susceptibility in F_1 might be masked unless fine methods were used. Tests made in the temperature tanks of the F_1 of K. F. and 1027 had shown 20% wilt susceptibility, but no wilt at all had been observed in the glass-house."

The Report of the Sub-Committee was adopted.

SUBJECT 19.—*Progress Report on Jalgaon Cotton Breeding Scheme.*

The original object of the scheme, which was sanctioned in December 1931 for a period of five years and extended in August 1936 for a further period of five years, was to obtain, by selection or hybridization, suitable wilt-resistant types with heavy yielding, high ginning and good spinning qualities to replace the local mixture of N. R. and *Banilla* cottons in Khandesh. The Committee noted that the scheme was proceeding on right lines and that in two years a cent per cent wilt-resistant race from Chinese R_1 Spotless 51 had been obtained.

SUBJECT 20.—*Progress Report on scheme for improvement of Wagad cotton at Viramgam and Jagudan.*

This scheme which has for its object the improvement of the *Wagad* cottons for (*a*) quality and yield and (*b*) earliness in order to escape frost and to replace, if possible, the inferior *Mathio* cotton of Kathiawar by early *herbaceums*, was sanctioned by the Committee at its meeting held in August 1936 and came into operation on the 1st May 1937. A preliminary report on it was considered by the Committee at its meeting in August 1937 and the programme of work was approved. The objects of the scheme are sought to be achieved by (*a*) selection in *Wagad* cotton, (*b*) hybridization with Surti-Broach quality cottons like *1027 A.L.F.* and *B.D. 8* and (c) hybridization with Iranian *herbaceums* known to be early and of better quality.

During the year under review a large number of selections in *Wagad* cotton were tried at Viramgam and types with higher yield, greater ginning percentage and with lint length equal to or greater than the local *Wagad* were isolated. Selections on the basis of these qualities were also made from the crosses of *Wagad* types with quality cottons such as *1027 A.L.F.*, *Surat 22-8-1-3* and *Broach desi 8*. At Jagudan, selections were made from the selfed types of *Wagad* cotton from Viramgam. Variety trial experiments were also conducted and from one such experiment with five varieties, Seg. 7-1, which was found to be the best will be tested in the Lalio tract.

The Agricultural Research Sub-Committee made the following observations on the progress report :—

"The Sub-Committee considered that the system of recording the yields in the table on page 5 was not intelligible and that, as a general rule, it was desirable to state whether yields given had any significance or not. The meaning of the word " families " was also not clear. It seemed to the Sub-Committee that after the original selections, the best method of testing yields would be that of Hutchinson's progeny rows.

The work was otherwise considered satisfactory and the report was approved."

The Report of the Sub-Committee was adopted.

SUBJECT 21.—*Progress Report on scheme for improvement of Mathio cotton at Amreli.*

The scheme, which was sanctioned by the Committee in August 1936 for a period of five years, has for its object the improvement of *Mathio* mixture in respect of yield, ginning percentage and quality and, secondly, the trial at Amreli of the early strains of *Wagad* evolved at Viramgam with the object of replacing, if possible, the inferior *Mathio* by early *herbaceums*.

The work of the year on the scheme was mainly confined to the testing of selections of *Mathio* cotton from the point of view of yield, ginning percentage and fibre length. These will be further tried in the ensuing season. The results of replicated tests of seven varieties were of no great comparative value owing to abnormal season.

The progress report was approved.

SUBJECT 22.—*Progress Report on scheme for breeeding of wilt-resistant cottons in Surat area.*

This scheme, which was sanctioned in August 1936 for a period of five and seven months, has for its object the production of a strain of cotton completely resistant to wilt and suited to the natural conditions of the Surat tract. This is sought to be achieved either by selection in *1027 A.L.F.* or by crossing this cotton with *B.D. 8* or other wilt-resistant strains. Two of the crosses of *B.D. 8*, progeny of *1027 A.L.F.* gave promise of yielding a wilt-resistant race. Other selections by crosses will be tried in the ensuing season.

The Agricultural Research Sub-Committee made the following observations on the report :—

"The Sub-Committee considered this to be very good work and approved the report. The Sub-Committee noted that *Seg. 1-6* had been selected as a better parent than *B. D.8* having the good qualities of *B. D.8* plus a much higher ginning percentage, *i.e.*, 40 to 44 against *B. D.8*'s 32."

The progress report was approved by the Committee.

SUBJECT 23.—*Progress Report on scheme for interspecific hybridization in cottons at Surat.*

This scheme was sanctioned in January 1938, for a period of five years with the object of obtaining, if possible, fully fertile hybrids between Asiatic and American cottons combining the useful agronomic characters of both, particularly the good staple length of the American and the hardiness and adaptability to Indian climate of the Asiatics. During the

year, out of the three methods tried to induce fertility in hybrids only one, *viz.*, that of back-crossing, was found to be successful in one out of 23 plants, under trial. The 23 hybrids were maintained as ratoons and propagated by cuttings and grafting.

The Agricultural Research Sub-Committee considered the progress report and made the following observations :—

"The Sub-Committee considered the Progress Report which was approved. It was pointed out that the use of Sea Island cotton in crosses was not likely to increase the ginning percentage. The Sub-Committee was of the opinion that a supply of material, which was discarded at Surat, to other cotton breeders would be useful. The suggestion was also made that the use of auxin and lanoline in assisting vegetative propagation should be tested."

The report of the Sub-Committee was adopted.

SUBJECT 24.—*Final Report on Madras Fodder Cholam Scheme.*

This scheme, which was sanctioned in July 1930 for a period of three years and commenced work in January 1931, was extended in August 1933 for two years and five months and again in January 1936 for another year. It terminated in June 1937. The object of the scheme was to determine the causes that lead to the diminished yields of cotton raised after *cholam*, and the devising of measures to remedy this defect so that the cultivator could have his fodder without at the same time having to suffer a loss in the succeeding cotton crop.

The Agricultural Research Sub-Committee examined the Final Report and made the following recommendations which were adopted by the full Committee :—

"The final report was considered by the Sub-Committee and approved. It was pointed out that the report indicates the necessity of breeding early varieties of cotton as a step towards the solution of this problem.

It was decided that the report should be recommended for publication by the Madras Government and that a summary should be prepared and submitted for publication in the Indian Journal of Agricultural Science."

SUBJECT 25.—*Progress Report on Bikaner Bengals Cotton Improvement Scheme.*

This scheme, which was sanctioned in July 1930 for five years, has for its object the study of the local problems of the agriculturists and the evolution by selection and hybridization of one or more superior types of cotton suitable for the locality. The scheme was extended in January 1936 for a further period of five years.

The Agricultural Research Sub-Committee made the following observations on the report which were accepted by the full Committee :—

"On the subject of bad germination, the Sub-Committee considered that if this was only a question of, say, 50 per cent. failures then the matter could be simply overcome by increasing the seed rate. If, on the other hand, it was a question of 80 to 90 per cent. failures, then the matter had to be more thoroughly studied—

(1) in the laboratory to see how far it was a question of seed characters, and

(2) in the field to see how far it was a question of field conditions.

The Sub-Committee considered that the *Sanguineums* had been dismissed far too lightly. The fact that they are reported to suit the area might well make them the basis for building on other desirable qualities. It was observed that the 1939-40 programme had no reference to *Sanguineums* whatever.

The Sub-Committee considered that this research required closer supervision from Indore.

The Sub-Committee observed that on page 8; the paragraph on Cotton Variety and Agronomy mentioned certain manuring experiments but gave no details regarding manures. The Sub-Committee considered the question of date of application as important but the reference thereto on page 11 was contradictory and incomprehensible.

The Sub-Committee considered that (with regard to varietal trials) *desi* types and American types should not be lumped together in one varietal trial. Here again, no results had been recorded.

The Sub-Committee advised caution regarding *47F*, as in the Punjab its performance had been inconsistent.

The Sub-Committee drew attention to the desirability of using the new nomenclature for the Punjab cottons, *i.e.*, *43F* should now be referred to in the reports as *289F/43*."

SUBJECT 26.—*Progress Report on Bengal Comilla Cotton Scheme.*

This scheme, which has for its object the improvement of the important commercial characters of *Cernuum* cotton, was sanctioned in February 1933 for a period of five years and came into operation on the 1st December 1934. In January 1939, an interim extension from 30th November 1939 to 31st March 1940 was sanctioned pending consideration of proposals for the extension of the scheme up to 31st March 1945.

The Progress Report was considered by the Agricultural Research Sub-Committee which made the following observations :—

"The Sub-Committee considered that the work in 1938-39 had in certain cases gone outside the programme laid down by the Special Sub-Committee in 1937-38 (*e.g.*, the spacing experiment on page 2, the genetical experiment on page 3) and suggested that these should definitely be cut out.

The Sub-Committee observed that there was very little reference to the survey work in 1938-39 although it is stated that 200 plants had been collected.

In the opinion of the Sub-Committee this research seemed to suffer from lack of expert supervision and it was suggested that, if the Indian Central Jute Committee agree, the Jute Specialist (Dr. J. S. Patel) and his First Botanical Assistant (Mr. Ghosh) might, in the course of their tours, visit this place and suggest improvements to the Director of Agriculture, Bengal.

Subject to the above observations, the Progress Report was approved."

The Report of the Sub-Committee was adopted.

SUBJECT 27.—*Progress Report on Scheme for improvement of Kumpta cotton in Hyderabad State.*

This scheme, which was sanctioned in August 1936 for a period of five years, has for its object the development of certain strains of *Kumpta* cotton which had been bred from the local variety of Raichur by the Cotton Research Botanist, Parbhani, at the Government Main Farm before this scheme was sanctioned. The scheme came into operation in November 1937. Comparative tests of the most promising new strains with their parent variety and two imported types were conducted during the year. A large number of desirable plants of local *Kumpta* and certain other varieties have been selected for further study.

The Agricultural Research Sub-Committee which considered the progress report on the scheme noted that the scheme was well on the way to solve the problem of a suitable *Kumpta* cotton variety for the Kumpta areas of the Hyderabad State and that *R. K. 19* was definitely drought-resistant.

The Report of the Sub-Committee was adopted.

SUBJECT 28.—*Progress Report on the Punjab Botanical Scheme.*

The Punjab Botanical Scheme was first sanctioned in December 1924 for five years, was extended in 1929 for another five years and again in February 1935 for a further period of five years.

The original object of the scheme was the investigation of the causes of the periodic failures of American cotton in the Canal Colonies and the obtaining of suitable types of American and *Desi* cottons to replace the *4F* and *Desi* cottons, respectively. In view, however, of the immediate economic value of the improved types of cotton, work is being concentrated on the problem of breeding and a separate physiological scheme has been sanctioned for the investigation of the problem of periodic failures of American cotton.

During the year single plant selections, preliminary trials of new strains of American and *Desi* cottons and *D.C.* crosses, hybridization and comparative trials of American and *Desi* cottons were undertaken.

The progress report was considered by the Agricultural Research Sub-Committee which reported as follows:—

"With regard to the investigations on the ginning outturn of *289F/43*, the Sub-Committee considered it necessary that the extent of variability should be noted. In Table 9 attached to the report, critical differences should be mentioned. In the paragraph dealing with hybridisation, more indication of the yield and ginning percentage of the *Mollisoni* and *Million Dollar* crosses should be given. With reference to the paragraph dealing with the breeding plot at Lyallpur, the term 'very large' was considered to be vague and it was suggested that more details should be given. A comparison between Table 15 and Table 18 attached to the report which deals with the same varieties of cotton and the same sowing dates showed entirely opposite conclusions with regard to the effect of sowing date on yield and the Sub-Committee felt that some explanation of this discrepancy was necessary."

The Report of the Sub-Committee was adopted.

SUBJECT 29.—*Progress Report on scheme for improvement of Punjab-American 289F cotton.*

This scheme was sanctioned in January 1938 for a period of five years with the object of improving *289F/K.25* cotton. This strain was evolved at the British Cotton Growing Association farm some years ago and has become very popular in the Lower Bari Doab Canal Colony. During the year a large number of selections from single plant progenies and first generation hybrids between *289F/K.25* and *289F/43* were made. Testing of varieties and manures was also undertaken.

The Agricultural Research Sub-Committee examined the progress report and made the following observations :—

"It was, however, not understood why botanical work on *desi* cottons was included in a breeding scheme for the improvement of *Punjab-American 289F*. With regard to the programme of work, the Sub-Committee recommended that the items

dealing with comparative trials and cultural experiments should be omitted. The Sub-Committee noted that the rogueing work referred to in the report is meant to imply ' mass selection.' "

The Report of the Sub-Committee was adopted.

SUBJECT 30 (a).—*Progress Report on the Central Provinces Botanical Scheme.*

This scheme commenced in 1923, was extended in 1929, again in 1933 and terminated on 31st March 1939. The object of the scheme was to secure wilt resistant, high yielding, superior types of cotton for the Central Provinces and Berar and to investigate the causes of the low yield of cotton in Berar.

The Agricultural Research Sub-Committee examined the progress report and made the following observations :—

" The Progress Report was considered and the Sub-Committee was of the opinion that the Report was unsatisfactory and that last year's recommendation with regard to the need for details and properly submitted data in support of conclusion arrived at had not been observed. The summary of the work done, given on page 2, was merely a statement of the weather conditions prevailing during the season. The report also contained certain statements with regard to the policy of the Indian Central Cotton Committee which were incorrect and which in any case should not find place in a scientific report of this type. The Sub-Committee noted that the final report was due to be submitted at the next meeting of the Indian Central Cotton Committee and recommended that it should be very carefully scrutinised by the Director of Agriculture and that the Committee's previous criticisms should be taken into account in framing this report.

The Sub-Committee thought that it should be pointed out that the policy of the Committee was not to encourage the spread of *Roseum* cotton. "

The Indian Central Cotton Committee endorsed the views expressed by the Agricultural Research Sub-Committee and the Report of the Sub-Committee was adopted.

SUBJECT 30 (b).—*Central Provinces and Berar Cotton Breeding Schemes—Programme of work for the year* 1939-40.

The Committee at its meeting in July 1938 considered proposals for the extension of the Central Provinces Botanical Scheme, but decided that the latter should terminate at the end of its existing sanctioned period on 31st March 1939 and be replaced by two specific cotton breeding schemes with well-defined objects. Two cotton breeding schemes, *viz.*, (1) the Central Provinces Cotton Breeding Scheme at Nagpur and (2) the Berar Cotton Breeding Scheme at Akola, were accordingly sanctioned for a period of five years.

The programme was considered by the Agricultural Research Sub-Committee which reported as follows :—

" The Sub-Committee considered the programme of work under the Central Provinces and Berar Cotton Breeding Schemes for 1939-40, and was of the opinion that the items proposed were extremely indefinite and unacceptable in their present form. It was essential that the areas for which the work was contemplated should be clearly defined and that the exact type of work to be undertaken should be substituted for the somewhat vague and general proposals which had been made. The Sub-Committee considered that, as it had already been stated that *Bani* cotton is not suitable for any large area in the Central Provinces, work on this variety should not be continued. They also recommended the omission of items (3), (4) and (5) in the programme of work under the Berar Cotton Breeding Scheme. Finally it had not been made clear how the study of single plant selections, the preliminary

trial of promising strains and yield trials on a field scale could all find place in the first year's programme of a cotton breeding scheme. The Sub-Committee recommended that an amended and more detailed programme should be called for from the Director of Agriculture, Central Provinces."

The Report of the Sub-Committee was adopted.

SUBJECT 31.—*Progress Report on Hyderabad Botanical Scheme.*

The scheme, which is chiefly concerned with the production of improved strains of *Gaorani* cotton, was sanctioned in July 1928 for a period of five years and was put into operation in May 1929. It was extended in August 1933 for a further period of five years with effect from 1st April 1934. In July 1938, a further extension for five years from 1st April 1939 was sanctioned.

The Agricultural Research Sub-Committee considered the progress report and recommended as follows :—

"It was noted that excessive rain both at the beginning and at the end of the cotton season very seriously reduced the yields of *Gaorani* 6 but the local cotton suffered even more. The Sub-Committee was informed that for areas outside those suitable for *Gaorani* 6, *Gaorani* 4B-5 and *Gaorani* 6 E-3 were likely varieties. It was noted that wilt resistant types with fairly good field resistance, *i.e.*, with only about 5 per cent mortality had been produced and that from the American type grown as a mixture with Asiatic cotton, a variety—*Parbhani American 1*—which gins 32 and spins 30's as against 10's of the local mixture had been produced.

The Report was approved."

The Report of the Sub-Committee was adopted.

SUBJECT 32.—*Progress Report on the United Provinces Botanical Scheme.*

This scheme was sanctioned in January 1938 for a period of five years and came into operation in August 1938. The object of the scheme is to develop improved strains of Bengal cottons for the rain-fed and irrigated tracts of the United Provinces from the material collected in the course of the recent survey of cottons in Rohilkhand and Bundelkhand and to explore the possibilities of growing long staple cottons in the Pink Bollworm controlled areas. During the year under review, extensive trials of improved strains (*C. 402* and *C. 520*) against local and other suitable introductions from outside the province were carried out in Pink Bollworm controlled area and other cotton tracts under dry and irrigated conditions. Detailed examination, purification and replicated trials on material derived from 25,000 single plant survey collections were made and desirable types selected for further study.

The Agricultural Research Sub-Committee considered and approved the progress report. It suggested that in the tabulated results of experimental plots, the controls should be indicated.

The Report of the Sub-Committee was adopted.

SUBJECT 33.—*Progress Report on Scheme for Cotton Jassid Investigation in the Punjab.*

This scheme was sanctioned in March 1937 for a period of three years and came into operation on 1st April 1937. The object of the scheme is to study the jassid insect in the Punjab, as regards its habits, alternative host plants and characters of the cotton plant which determine resistance to the pest. The results obtained during the year showed that jassid

nymphs had no difficulty in developing on all varieties of cotton but the number of eggs laid by females on *desi* strains was very low compared to that laid on American types.

The progress report was recorded.

SUBJECT 34.—*Progress Report on Scheme for Cotton Jassid Investigation in Sind.*

In August 1937, the Committee, realising the need for a detailed study of jassid attack and its prevention in Sind, sanctioned the scheme for a period of three years and it came into operation in May 1938. The observations made during the season have suggested further lines along which efforts should be directed to determine the characters that made a particular variety of cotton resistant or tolerant.

The Agricultural Research Sub-Committee considered the progress report and observed as follows :—

" The progress report was considered and approved.

The Sub-Committee considered that item 5 of the proposed programme of work for 1939-40, namely, the study of Jassid resistant characters with reference to plant hairiness and the number of eggs laid on veins should be closely correlated with similar work which was being undertaken under the Punjab Cotton Jassid Investigation. It was suggested that experimental plots for the purpose of comparing the effect of late and early sowing on jassid attack should not be contiguous."

The Report of the Sub-Committee was adopted.

SUBJECT 35.—*Progress Report on scheme for investigation into Black-headed Cricket in Sind.*

This scheme was sanctioned in January 1938 for a period of three years with the object of establishing the identity of the pest, to study its life history and seasonal behaviour and the extent of damage caused by as a preliminary to the introduction of control measures.

The Committee noted that as the period dealt with covered a time when the insect pest was not active, no work towards the objects of the scheme was possible.

SUBJECT 36.—*Progress Report on :—*

(a) *Hyderabad Pink and Spotted Bollworm Scheme.*

This scheme, which was sanctioned by the Committee in 1933 for a period of three years, came into operation on the 1st June 1933. It was provisionally extended in January 1936 for a period of four months from 1st June 1936 to 30th September 1936 and in August 1936 a further extension for two years from the 1st October 1936 to the 30th September 1938 was sanctioned. The extension provided for the continuation of the research work on the scheme for one year from the 1st October 1936 to the 30th September 1937 and the inauguration of a clean-up campaign for two years from the 1st October 1936 to the 30th September 1938. The research part of the work on the scheme was further extended by the Committee in August 1937 for a period of one year from the 1st October 1937. An interim extension for six months from the 1st October 1938 to the 31st March 1939 was sanctioned in July 1938 and in November 1938 a further extension was granted from 1st April 1939 for one year.

The object of the scheme is to determine the amount of damage done by the pink and spotted bollworms to the cotton crop of the Godavery Valley, to watch the progress of their attack on the growing crop in the season, to find out the mode of their carry-over from one season to another and to study the effect of the likely control measures.

The observations made during the year on the incidence of the two pests on the cotton crop showed that more damage was done in the late maturing variety, *Gaorani* 12, than the earlier one, *Gaorani* 6. The high percentage of damaged cotton in the last picking compared with the earlier pickings showed that judiciously advancing the date of the last picking (which involved only a small quantity of cotton) reduced the number of caterpillars that go into the resting stage in the soil.

The Progress Report was approved.

SUBJECT 36(*b*).—*Progress Report on Hyderabad Bollworm Clean-up Scheme.*

The Committee, while extending the Hyderabad Pink and Spotted Bollworm Scheme for a period of two years, decided to include provision for a clean-up campaign for two years from the 1st October 1936 to the 30th September 1938. The Clean-up Scheme was sanctioned subject to the following two conditions which were accepted by the Hyderabad Government :—

(*a*) that the Hyderabad Government should agree to issue the necessary instructions through their Revenue Staff to ensure that the cultivators or owners of the fields will carry out the prescribed measures ; and

(*b*) that, if successful, the work should be continued thereafter by the Hyderabad Government.

The scheme has for its object the determination of the incidence of the attack of bollworms on the standing crop in the control area and a few adjacent villages. Owing to administrative difficulties, the scheme could not be put into operation before 1st October 1937.

During the year, the clean-up work was carried out over a great part of the area of operation by the 30th April. Ginning of all *kapas* was completed before this date and the growing of alternative host plants successfully prevented. The results of the control measures will be studied during the extension period of the scheme.

The Progress Report was approved.

SUBJECT 37.—*Progress Report on the Punjab Root Rot Scheme.*

The scheme which has for its object the investigation of the causes and control of the root rot disease—a very serious menace in the Punjab —was sanctioned in August 1932 for a period of three years and extended in February 1935 for a further period of three years and again in July 1938 for a period of 2½ years.

Preliminary experiments have shown that high humidity and low temperature check the progress of the disease. A number of imported varieties were tested for resistance but none showed this character to an appreciable extent. Those which showed a lower mortality will be tested again.

The Agricultural Research Sub-Committee's report on the progress report was as under :—

"The Sub-Committee desired to draw the attention of the workers on this scheme to the Soil Science Bureau Technical Communication No. 38, page 32, on the effect of organic manures in deep furrows to increase the microbiological flora of the soil in order to effect biological control of the pathogenic fungi. Another publication worth consulting was King, C. V. 1937 Circular of U. S. Department of Agriculture 425. Regarding Section 3(*a*) on pages 4-5 of the report, the Sub-Committee suggested that a study should be made as to whether humidity directly affects the pathogenicity of the fungus or through the temperature. In Section 3(*b*), page 5, the Sub-Committee desired that the soil temperature should also be noted. The report followed the programme laid down by the Sub-Committee in November 1938 and was approved."

The Sub-Committee's report was adopted.

SUBJECT 38.—*Progress Report on Baroda Root Rot Scheme.*

The scheme, which has for its object the study of the root-rot disease of cotton in Baroda and the obtaining of strains resistant to it, was sanctioned in July 1931 for a period of two years and was extended in August 1933 for three years and in August 1936 for a further period of five years and four months. The work done on the scheme up to date was reviewed and examined by a Sub-Committee of specialists, Mycologists and Plant Breeders held in November 1938 which made suggestions for the future including the co-ordination and technical supervision of programmes and their fulfilment.

The Agricultural Research Sub-Committee examined the Progress Report and made the following observations :—

"The Sub-Committee regarded this as an unsatisfactory report. The programme laid down by the Special Sub-Committee in November 1938 had not been followed and apparently it was not proposed to do so in the programme laid down on page 9 for 1939-40. The worker had not established whether Nematodes were a primary cause of the disease and the table on page 4 gave no indication of any effect of Nematodes on the early stages of the plant. On page 8, progenies continue to be tested and were still not free from Root Rot. The previous year's results, which were not given, were of much the same type. On pages 1-3 there was a report of work no longer necessary to establish pathogenicity. The Sub-Committee desired to insist that the programme laid down by the Special Sub-Committee in 1938 should be closely followed."

The Indian Central Cotton Committee endorsed the views expressed by the Agricultural Research Sub-Committee and the report of the Sub-Committee was adopted.

SUBJECT 39.—*Progress Report on Mysore (Doddahathi) Cotton Scheme.*

The scheme was sanctioned in February 1935 for a period of three years with the object of obtaining " Red Leaf " resistant strains suitable for Mysore State generally, and for the Irwin Canal area in particular. It came into operation in November 1935. In July 1938 it was extended for a period of three years from 1st November 1938. The work on the scheme was conducted according to the approved programme.

The Agricultural Research Sub-Committee considered the Progress Report and made the following observations :—

" The Sub-Committee noted that owing to bad distribution of rainfall the season in this, the 4th year of the scheme, was bad for cotton and the crop suffered badly from red leaf. No varieties had yet been found which were not susceptible to the disease, but of all the varieties investigated *Mysore American II* was the least susceptible. Various selections had been made from this strain which were based

on lint length and ginning percentage, and the Sub-Committee felt that the greatest chance of obtaining the maximum degree of resistance lay in following up these selections and in the crosses now under investigation in accordance with last year's recommendations.

The Sub-Committee suggested that, based on observations in the Physiological Scheme at Lyallpur, the effect of adding nitrogen to the soil at the flowering stage should be investigated, as this practice resulted in definite amelioration of a somewhat similar condition in the Punjab.

The report was approved."

The Sub-Committee's report was adopted.

SUBJECT 40.—*Progress Report on Scheme for Survey of Goghari Cotton in Gujerat.*

This scheme was sanctioned in August 1934 for a period of five years for carrying out a field to field survey of *Goghari*, a short stapled variety, with a view to trace it to ginneries and to induce the latter to discourage its cultivation by paying low prices for it. It came into operation in January 1935 and terminated in March 1939.

The Committee noted that the object of this scheme has been achieved, and that the survey had shown that with the passing of the Bombay Cotton Control Act of 1935, *Goghari* had been completely eliminated.

SUBJECT 41.—*Progress Report on Scheme for Survey of Goghari cotton in Baroda State.*

This scheme was sanctioned in August 1934 for a period of five years with the same object as that of the Gujerat Survey Scheme, *viz.*, the elimination of *Goghari*, a short staple variety, by means of field to field survey with a view to tracing it to ginneries and inducing the latter to discourage its cultivation by paying low prices for it. As, however, in the opinion of the Commissioner of Agriculture, Baroda, the object of the scheme had been fulfilled, it was closed down in May 1938. The Progress Report dealt with the work done in April and May 1938.

The Committee noted that the object of the scheme had been fulfilled as sustained propaganda, field to field observations, coupled with the application of the Cotton Control Act were responsible for driving out this cotton from the tract.

SUBJECT 42.—*Final Report on the Punjab Pink and Spotted Boll-worm Scheme—Reference from the July* 1938 *meeting of the Committee.*

This scheme was sanctioned by the Committee in January 1926 for five years for the investigation of the causes responsible for the difference in the incidence of the Pink Boll-worm between South-East Punjab, where its attack is severe, and the Canal Colonies, where it is negligible. The scheme was extended in December 1930 for two years and again in February 1933 for one year. It terminated on 31st March 1934 when it was replaced by the Pink and Spotted Boll-worm Scheme for the continuation of the work on the Pink Boll-worm and the investigation of certain aspects of the Spotted Boll-worm. The latter scheme was sanctioned in August 1933 for three years and commenced work in April 1934. In March 1937, the Committee sanctioned an extension of the scheme for a period of one year from the 1st April 1937 for continuation of the investigation and for the writing-up of the work done.

The Committee at its meeting in July 1938 recommended the revision of the final report by the Entomologist to Government, Punjab, prior to publication. The revised report was considered by the Agricultural Research Sub-Committee, but, in view of the expenditure involved, the Sub-Committee recommended that the report should be printed in its imperfect form without any further expenditure being incurred on it. The Sub-Committee desired to emphasise that, in future, a condition should be laid down that the results of the work done on any scheme should be satisfactorily written up within its sanctioned period.

The recommendations of the Sub-Committee were approved.

SUBJECT 43.—*Progress Report on Plant Puller Propaganda Scheme—Surat, Broach and Panchmahals Districts.*

This scheme, which aims at the eradication of the spotted bollworm by uprooting of cotton stalks with plant pullers, was sanctioned in August 1933. It was extended in August 1934 for two more seasons and in August 1936 for a further two years. In July 1938, a further extension for two years was granted. During the year under review 465 and 955 pullers were sold in the area north and south of the river Nerbudda respectively. The percentage of area cleaned in Jambusar *taluka* was 40 as against 30 in the previous year, while in the Surat District the percentage was 44, 65 and 61 against 47, 77 and 62 in the previous year.

The Agricultural Research Sub-Committee's report on the progress report was as under :—

"The Sub-Committee observed that in this, the 5th year of the scheme, little progress had been made on the whole in securing a complete clean-up. In one *taluka* only 40% of the area was cleaned up, though this was better than the 30% last year in the same area. But, in at least three other *talukas*, the clean-up had been less thorough than last year and in some other areas the proportion of the plants uprooted was no more than 18% to 32%. The report stated that owing to the cotton plants being weak, thin and stunted in the year under report, cultivators found it easier to cut them by *Kudalis*. The report, however, gave no indication of the proportion of the plants so cut and it was not possible to get a complete picture of the total extent of the removal of cotton plants. It was clear, however, that very much remained to be done yet either by propaganda or by legislation, before the practice of uprooting would be anything like thorough."

At the meeting of the Indian Central Cotton Committee it was stated that legislation to enforce the pulling out of plants was being prepared for submission to Government and efforts were directed towards inducing some members of the Legislative Assembly to bring in a private bill.

The Report of the Sub-Committee was adopted.

SUBJECT 44.—*Progress Report on Plant Puller Propaganda Scheme in Baroda State.*

This scheme, which has for its object the eradication of the Spotted Booll-worm by the uprooting of cotton stalks by means of plant pullers, was sanctioned in August 1934 for two years, and came into operation on the 1st January 1936. It was extended for a further period of two years from 1st January 1938 and at this meeting for two years from 1st January 1940. During the year the number of pullers sold was 2,767 and 1,750 and the area handled was 162,000 acres and 334,373 *bighas*

in the Baroda and Navsari districts, respectively. The percentage of uprooted area was 24 to 80 in Baroda district as against 38 to 60 in the Navsari district.

The Committee noted that there had been a progressive increase in the extent to which cotton plants had been uprooted in both the districts where the scheme was in operation, though a large proportion of the good cotton crop was still not uprooted.

SUBJECT 45.—*Progress Report on the Punjab Clean-up Scheme.*

In March 1937, the Committee, while sanctioning the extension of the Punjab Pink and Spotted Boll-worm Scheme for a further period of one year approved of the proposals for a clean-up campaign against the Spotted Boll-worm in the Punjab for two years. This scheme was put into operation on the 1st April 1937. The object of the scheme is to show by practical demonstrations over an area of 500 square miles in the Canal Colonies that better yields of *kapas* can be obtained by the elimination of the Spotted Boll-worm. This is to be achieved by clearing the whole area of all cotton stalks and stubbles immediately after picking is over and by eradicating at the same time the alternative host plants.

The Agricultural Research Sub-Committee considered the report and made the following observations :—

"The Sub-Committee noted that this scheme had been carried out very thoroughly and had provided useful data.

The report showed that in the area which was cleaned up last year the boll-worm appeared later than in the uncleaned area surrounding it, indicating that the pest came into it again from the uncleaned area. The result of the clean-up on the one year's figures indicated that cleaning up was responsible for an average of 7 more bolls per plant and 1 lb. 9 ounces more *kapas* per 50 plants in the cleaned-up area. On the basis of 10,000 plants per acre this amounted to an increased yield of more than 3½ *maunds* per acre.

The Sub-Committee noted that in the clean-up operations in the same area in the current year 92% of the cotton sticks were cut by *Kudalis*, only 8% being cut by *Toka*—the usual practice—but that in the latter case the fields so cut were thoroughly cleaned up of any sprouts subsequently. The clean-up was, therefore, absolutely thorough.

The Sub-Committee felt that when the effect of the second year's clean-up has been ascertained in the coming months and final data are available, effective steps should be taken by propaganda and, if necessary, by legislation to ensure that such clean-up measures become a normal part of agricultural practice in future.

The report was approved."

The report of the Sub-Committee was adopted.

SUBJECT 46.—*Progress Report on Scheme for inclusion of Northerns and Westerns cottons in programme of work of dry farming scheme at Bijapur.*

The Agricultural Research Sub-Committee, at its meeting in August 1935, while considering the subject of the possibility of growing long and medium staple cottons in the short staple cotton areas of India, expressed the opinion that in short staple cotton areas, like the Bijapur district in the Bombay Province and the Raichur and Gulbarga districts of the Hyderabad State where the rainfall is limited and precarious, a solution of the problem confronting the successful growing of medium and long staple cottons might be found in devising suitable dry farming methods for the cultivation of cotton in those areas.

A scheme for this purpose was accordingly sanctioned by the Committee in August 1936 for a period of one year, in the first instance, and it came into operation on the 1st June 1937. It was extended in July 1938 for a further period of three years.

The main work during the year consisted in finding out the comparative performance of 4 strains *N. 14, H. 1, Jayawant* and *Local Kumpta*, in replicated and randomised experiments and the field scale trials of Northerns and Westerns under the Bombay Dry Farming system against the local cultivators' method. Experiments were also conducted on the value of different factors, such as preparatory tillage bunding, interculturing, spacing, rotation, fallowing and green manuring.

The progress report was approved.

SUBJECT 47.—*Progress Report on scheme for inclusion of Northerns and Westerns cottons in the programme of work of Dry Farming Scheme at Raichur.*

The object of this scheme is similar to that stated in Subject 46. It was sanctioned for a period of one year in January 1937 and started in September 1937. It was extended in July 1938 for a period of 3 years.

The experiments conducted during the year fell under the following heads :—(1) Manurial *cum* varietal experiments, (2) tillage experiment, (3) bunding experiment and (4) observations to test the superiority of varieties.

The results of the experiments are not yet conclusive. Under item (4) *Nandyal 14* has been found to give the highest mean yield.

The progress report was approved.

SUBJECT 48.—*Progress Report of the Institute of Plant Industry, Indore.*

The primary object of the Committee in financing the Institute, which was established in 1924, is to provide a centre for cotton research for the black soils of the Malwa Plateau, and the programme of work includes the Genetics, Botany, Chemistry and Agronomy of Indian cottons besides a number of agricultural investigations connected with cotton cultivation.

The Agricultural Research Sub-Committee reported on the progress for the year as under :—

"The Sub-Committee noted with apprehension the rapid spread of wilt in the experimental plots of the Institute, and was of the view that unless timely precautions were taken, this might affect the work of the Institute, especially with regard to the material needed for genetic studies. It was suggested that in plots that were yet free from wilt no seed from wilt plots should be grown.

In the experiments for the study of the effect of different varieties grown in a mixed state, it had been recorded that the growing of American cotton in association with *desi* afforded the latter variety a certain measure of protection against wilt. The Sub-Committee thought that this aspect of the investigation needed further study as it might lead to interesting results.

In the Table on page 10 of the Report, the recording of information about percentage maturity of fibres and general observations of the Director, Technological Laboratory, on the samples tested, would have increased the utility of the table.

The Sub-Committee felt that the studies of the genetics of wilt resistance under controlled conditions of temperature and moisture were likely to give results which might not tally with those that might be obtained from studies with plants

grown in pots in a glass-house. Such genetic studies were also being carried out at Poona under controlled conditions. The Sub-Committee recommended that the desirability of discontinuing these studies at Indore might be considered in consultation with Dr. Uppal.

The Sub-Committee noted that the experimental work of the Chemistry Section of the Institute was in conformity with the programme laid down by Sir John Russell and approved by the Indian Central Cotton Committee.

The Sub-Committee was of the opinion that in presenting the results of manurial experiments it was not enough to give one year's results only. It should also be mentioned whether the findings of the year confirmed or contradicted the results of the experiments of the previous year or years.

Detailed tables of analysis of variance as given in the report were considered to be unnecessary. It would be enough to give in the body of the report the mean yields of treatments, significance by Z test, critical difference and conclusions arrived at for each experiment. Where interactions were studied, it should be stated whether such interactions were significant or not.

The Sub-Committee also considered Mr. Durutti's letter regarding the continued cultivation of *Roseum* in Nimar tract. The Sub-Committee wished to point out that no Department of Agriculture in India was at the present time making any effort to extend the cultivation of short staple inferior cotton in any tract. The Sub-Committee had been informed that selection work for the improvement of cotton of Nimar tract was already proceeding under the direction of the Institute of Plant Industry, Indore ; similarly, *Verum* and *Buri* cottons were being introduced into this tract by the Central Provinces Department of Agriculture. It was expected that, in course of time, the short staple inferior cotton would be replaced by one or more improved types.

The progress report of the Institute was approved."

The Sub-Committee's report was adopted.

The question regarding future contributions to and reorganisation of the whole Institute was raised at the meeting of the full Committee and a special Sub-Committee consisting of the Vice-President, Sir Purshotamdas Thakurdas, Dr. W. Burns, Mr. W. J. Jenkins, Mr. Rama Reddi, Rai Saheb Kalidas Sawhney and the Secretary was appointed to go into the matter fully. It was also decided that the Special Sub-Committee should meet some time before the next meeting of the Board of Governors of the Institute so that its recommendations might be available for consideration by that body.

SUBJECT 49.—*Seed Distribution and Extension Schemes—Progress Report on Revised Jayawant and Gadag No. 1 Scheme.*

This scheme, which replaced five seed schemes in the Southern Division of the Bombay Province, *viz.*, the Hubli, Gadag, Athani, Haveri and Bailhongal schemes, was sanctioned in August 1935 for the distribution and extension of Jayawant and Gadag No. 1 cottons in the Southern Division of the Bombay Province. It is intended to cover within five years 9½ lakhs of acres with these cottons.

During the year under report the total area under *Jayawant* and *Gadag No. 1* was estimated at about 500,000 acres, and 148,000 acres, respectively. The cultivators' produce, which was pooled and sold by auction at different centres, brought to them extra profits estimated at Rs. 84,000 for *Jayawant* and Rs. 80,000 for *Gadag No. 1.*

The Agricultural Research Sub-Committee considered the progress report and observed as under :—

"The Sub-Committee noted that satisfactory profits were apparently being made by the cultivators growing this cotton. They noted that the percentage so far planted fell short of the stipulated amount. This, however, was shown to be due to partial dislocation in the seed distribution of the area under report which had now been rectified."

The report of the Sub-Committee was adopted.

SUBJECT 50.—*Seed Distribution and Extension Schemes—Progress Report on Surat Scheme.*

The scheme was first sanctioned in 1929 for two years and was extended in 1931 for another two years pending the final decision of the Committee on the cotton policy in Surat area. In January 1934, after a thorough examination of the merits of *1A* and *1027 A.L.F.*, the Committee finally decided in favour of the latter and extended the scheme for five years for the distribution of *1027 A.L.F.* seed in the Surat area. A further extension of the scheme was sanctioned by the Committee in November 1938 for a period of one year from 1st April 1939.

As a result of the amendment of the Bombay Rules under the Cotton Transport Act, 1923, restricting the importation of inferior types of cotton there was good demand during the year under report for *1027 A.L.F.* seed. *1027* cotton was also in good demand as a result of the increase in the import duty on foreign cotton, and the stocks of *1027 A.L.F.* were disposed of easily. The area under *1027 A.L.F.* cotton in Surat area during the year was 260,000 acres.

The progress report was approved.

SUBJECT 51.—*Seed Distribution and Extension Schemes—Progress Report on Khandesh (Jarila Scheme).*

The Khandesh Jarila Scheme, which replaced the Khandesh (*Banilla*) scheme, was sanctioned in March 1937, for ten months in the first instance and was extended by the Committee in January 1938 for a period of one year. The object of the scheme is the multiplication, extension and distribution in Khandesh of the seed of *Jarila* cotton which is reported to have a staple length of 0·84″—0·92″ and a spinning performance of 28's to 36's s.w. counts. In November 1938, the scheme was extended for a further period of three years.

During the year *Jarila* is reported to have given an average yield of 269½ lbs. per acre against 229 lbs. of Local and to have been sold at a premium of Rs. 38 to Rs. 48 on *Broach*.

The report was considered to be satisfactory and was approved.

SUBJECT 52.—*Seed Distribution and Extension Schemes—Progress Report on Deccan Canals (Banilla) Scheme.*

The scheme was sanctioned in January 1934 for a period of five years and came into operation in April 1934. It was extended in November 1938 for a further period of five years. The object of the scheme is to supply pure *Banilla* seed in the irrigated tracts in Sholapur, Poona and Ahmednagar districts.

It was reported that the cotton crop was affected by uneven rainfall distribution, attack of gram caterpillars, red cotton bugs, pink bollworm and growth of weeds. The quantity of pure seed available for sowing in 1939-40 is not stated as seed distribution was not completed at the time the report was written up.

The progress report was approved.

SUBJECT 53.—*Seed Distribution and Extension Schemes—Progress Report on Bombay B.D. 8 Scheme.*

The scheme which was sanctioned in August 1935 for a period of three years commenced work in December 1935. It was extended in July 1938 for a period of five years.

During the year under report, an area of 14,294 acres was under *B.D. 8*; 10,208 bales of pure *B.D. 8* were produced and sold through Sale Societies and gin-owners at premiums ranging from Rs. 30 to Rs. 54 on Broach.

The following report of the Agricultural Research Sub-Committee on the progress report of the scheme was adopted :—

"The Sub-Committee had no comments to make on the report. It felt, however, that everything should be done to press forward the extension of the area under *B.D. 8*, preferably developed in compact blocks. The Sub-Committee approved of the practice of stencilling as this obtained a higher price, but emphasised the necessity of maintaining the standard."

SUBJECT 54.—*Seed Distribution and Extension Schemes—Progress Report on maintenance of nucleus of pure seed of improved varieties of cotton in Bombay Province.*

This scheme was sanctioned in August 1937 for the maintenance of nuclei of pure seed of the following seven improved varieties of cotton in the Bombay Province :—

(1) *1027 A. L. F.* on Surat Farm,
(2) *B.D. 8* on Broach Farm,
(3) *Jarila* cotton on Bhadgaon Farm,
(4) *Jarila* cotton on Jalgaon Farm,
(5) *Jayawant* cotton on Dharwar Farm,
(6) *Gadag No. 1* at Gadag, and
(7) *Banilla* at Kopergaon Farm.

The scheme came into operation during 1937-38 season.

The report showing the total area selfed and the quantity of seed produced under each variety was considered satisfactory and approved.

SUBJECT 55.—*Seed Distribution and Extension Schemes—Progress Report on Sind Scheme.*

This scheme was sanctioned in December 1930 for a period of three years; was extended in August 1933 for five years from the 1st April 1934 and again in November 1938 for a further period of two years.

The work on the Right Bank mainly consists of the extension of cotton cultivation while on the Left Bank attention is largely devoted to seed distribution and extension of improved varieties of cotton and the introduction of better methods of cultivation. The work during the year continued on the lines of previous years, both on the Right and Left Banks of the Indus.

The Agricultural Research Sub-Committee reported on the Progress report as follows :—

"The Sub-Committee again drew attention to the extreme length of this report and the difficulty which this involved in giving it a careful study. The progress on the Left Bank appeared fully satisfactory but the area on the Right Bank showed

some shrinkage. The Sub-Committee desired to reiterate its opinion that the application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act was imperative. The Sub-Committee noticed with regret the present position and the difficulties recorded by the Director of Agriculture on page 16 of his report and the apparent large use made of *4F* cotton grown on the Right Bank for mixing with cottons like Sind *Sudhar 289F* on the Left Bank. The Sub-Committee suggested that the application of the Cotton Transport Act should receive earnest consideration."

The report of the Sub-Committee was adopted.

SUBJECT 56.—*Seed Distribution and Extension Schemes—Progress Report on Scheme for maintenance of pure seed of improved varieties of cotton in Sind.*

The scheme was sanctioned in August 1937 for the maintenance of nuclei of pure seed of the following five improved varieties of cotton grown in Sind and it was put into operation in April 1938:—

(1) Sind N. R.,
(2) Sind *Sudhar*,
(3) 4F-98,
(4) Sea Island 2-4, and
(5) Boss III-16.

During the year the total area selfed and the total amount of seed produced from the above varieties of cotton were 5 acres and 793 lbs., respectively.

The progress report was approved.

SUBJECT 57.—*Seed Distribution and Extension Schemes—Progress Report on Scheme for extension of long staple cotton and marketing of Verum cotton in the Central Provinces and Berar.*

In August 1934 the Committee in pursuance of its new policy to encourage medium and long staple cottons in short staple areas, wherever possible, sanctioned a scheme for a period of three years for the marketing of *Verum* cotton and combined it with the Central Provinces Seed Extension Scheme sanctioned in January 1934 into one for the extension of long staple cotton and marketing of *Verum* cotton in the Central Provinces and Berar. The scheme was extended in March 1937 for a further period of two years. It was again extended for a period of three years in July 1938.

During the year the total production of the improved varieties has been estimated at 21,826 bales and, on the basis of the average premium obtained of Rs. 55-10-0 on Oomra, the cultivators were benefited to the extent of Rs. 6,07,036 by growing *Verum*. Pure seed of improved strains has been distributed to cover an area of about 112,853 acres.

The following report of the Agricultural Research Sub-Committee on the progress report was adopted:—

"The Sub-Committee noted the apparent greater value of V. 434 cotton in Berar as compared with Nagpur. It also noted the apparent small progress made in the extension of the area under Verum cotton. This, however, was understood to be due to the change in the type of cotton from Verum 262 to V. 434."

The progress report was approved.

SUBJECT 58.—*Seed Distribution and Extension Schemes—Progress Report on Hyderabad Scheme.*

The scheme was sanctioned in November 1929 for three years in the first instance and it commenced work in March 1930. It was extended in February 1933 for three years and again in January 1936 for six months. In August 1936, it was extended for a further period of 4½ years from the 1st September 1936.

During the first two years of the working of the scheme, *Dharwar No. 1* and *Gadag No. 1* seeds were distributed, but as a result of the experiments conducted by the Hyderabad Agricultural Department, and, in view of the fact that the Bombay Agricultural Department had found *Jayawant* variety more suitable for the neighbouring areas of that province, the distribution of *Dharwar No. 1* seed was discontinued in 1931-32 in favour of *Jayawant.*

The area under *Gadag No. 1* is reported to be decreasing in favour of *Jayawant.* Steps have been taken by the Agricultural Department to procure pure *Jayawant* seed sufficient for sowing 30,000 acres in 1939-40.

The progress report was approved.

SUBJECT 59.—*Seed Distribution and Extension Schemes—Progress Report on Baroda (Navsari Seed Storage) Scheme.*

The scheme which is concerned with popularising *1027 A. L. F.* in the Navsari district of Baroda State was sanctioned in February 1933, for a period of five years and it started work in April 1934. An extension for a period of five years was sanctioned in July 1938.

During the year the total area under *1027 A. L. F.* cotton showed a decline, which is attributed to the larger introduction and admixture of *1A.*

The Agricultural Research Sub-Committee considered the progress report and reported as follows :—

"The Sub-Committee noted that some similar difficulties were encountered in the year under report as had been recorded for the *1027 A.L.F.* extension scheme in Surat. A bigger margin of profit in *1027 A.L.F.* over 1A during the past season had, however, tended to an increase in popularity of the former. The Commissioner of Agriculture, Baroda, reported that the State had in readiness an Act enforcing the cultivation of 1027 A.L.F. which would be applied to the Navsari District, when Bombay had adopted a like measure. He was of the opinion that the Government of Baroda might be willing to apply the Act at once to areas which lay north of the Tapti if this was thought desirable."

The report of the Sub-Committee was adopted.

SUBJECT 60.—*Seed Distribution and Extension Schemes—Progress Report on Baroda B.D. 8 Scheme.*

The scheme was sanctioned in July 1938 for a period of five years and came into operation on the 1st April 1939.

The progress report was adopted.

SUBJECT 61.—*Progress Report on Scheme for a Cotton Marketing Survey in the Punjab.*

The scheme was sanctioned in January 1938 for a period of 15 months with the object of conducting a survey of the cotton crop on the lines of surveys for other crops carried out by the Imperial Council of Agricultural Research, with a view to collecting all available information for the establishment of regulated markets. The survey includes a detailed study of all the phases and channels through which cotton passes from the time it is picked in the field to the time it reaches the final consumer through the various intermediaries. The scheme came into operation in September 1938. During the year necessary information was collected about marketing practices, arrivals, stocks and carry-overs, the procedure in the ginning and pressing factories, baling and pressing charges and the despatch of cotton to various consuming centres. During the course of investigations, several markets, cotton ginning and pressing factories and cotton mills were visited and data of imports and exports were collected from railway stations on the North Western Railway and the B. B. & C. I. Railway. It was noted that satisfactory progress had been made and the report was approved.

SUBJECT 62.—*Progress Report on Scheme for Marketing of* 1027 *A. L. F. cotton of Baroda State.*

This scheme was sanctioned in January 1938 for a period of three years and came into operation in February 1938. The object of the scheme is to help the growers of *1027 A. L. F.* to realise better prices for their produce by the establishment of a marketing centre at Surat to deal with the cotton produced by groups of growers and Co-operative Sale Societies in the Baroda State.

The marketing centre at Surat was established in February 1938 with the help of a loan of Rs. 1½ lakhs sanctioned by the Baroda Government. Against four pooling centres in 1938, there were five centres in 1939 where *kapas* of five cotton sale societies and four groups of growers was pooled. The average premium per *khandy* received by societies and groups was Rs. 7-12. The premium received by the societies or groups after deducting all expenses of ginning, pressing, insurance and management varied from Rs. 4-8-0 to Rs. 6 over the average price of *kapas* during the season.

The progress of the scheme was considered to be very satisfactory and the report was approved.

SUBJECT 63.—*Agricultural Research—General Progress Report.*

The general progress report on the schemes financed by the Committee was approved.

SUBJECT 64.—*Research Schemes—Proposed extensions of—*
(a) *Punjab Botanical Scheme.*

The Agricultural Research Sub-Committee considered proposals for the extension of this scheme for a further period of five years from the 1st April 1940 to the 31st March 1945 and made the following recommendations:—

"The Sectional Sub-Committee which examined the proposals in detail reported as follows:—

'With regard to the proposal for the extension of the Punjab Botanical Research Scheme, the Sub-Committee is of the opinion that both the progress report and new programme of work proposed during the extended period

indicate that the work now being done, and contemplated during the extension period, is of much too general a nature and that the original specific purpose of the scheme has been overlooked. The Sub-Committee considered that the grant now asked for from the Committee is more of the nature of a general subvention to the cotton work of the Punjab Agricultural Department and does not have any definite object in view other than the wholesale improvement of all types of cotton in the Punjab. The Sub-Committee is of the opinion that such work is the normal work of the Punjab Agricultural Department. However there are certain items in the programme of work, such as the improvement of *deshi* cotton in the south-eastern portion of the Punjab, which do not appear to have yet been undertaken by the Department and where such definite objects are in view, the Sub-Committee considers that financial assistance might be legitimately given to appropriate schemes by the Committee. Accordingly they recommend that the Director of Agriculture, Punjab, may be requested to submit definite proposals for such specific items of work, and, in the meantime, the scheme may be extended for one year.'

The Agricultural Research Sub-Committee, after some discussion, recommended that on the expiry of the existing sanctioned period of the scheme on the 31st March 1940, it should be extended for a period of one year on the basis of the extension proposals considered by the Sub-Committee and that in the meantime the Director of Agriculture should submit (1) separate specific cotton breeding schemes with well defined objects for each tract for which improved varieties are required and (2) a combined revised scheme giving full details of the programme of work that is proposed to be undertaken, the objects in view and definite information regarding the areas for which breeding work would be carried out. The Agricultural Research Sub-Committee on receipt of the two schemes will examine them in detail and decide, with due regard to the importance of the work and the expenditure involved, which of the two proposals should be recommended for sanction."

The recommendations of the Sub-Committee were accepted.

(b) *Punjab Physiological (Cotton Failure Research) Scheme.*

The Agricultural Research Sub-Committee considered proposals for the extension of this scheme for a further period from the 15th March 1940 to the 28th February 1943 to complete the results so far obtained in order to establish definitely that soil conditions are the cause of the failure of the crop and to determine finally the necessary remedial measures for counteracting these conditions.

The Sub-Committee's report was as follows :—

"The Sub-Committee emphasised the need for acknowledging the lead given by Dr. Mason and of showing clearly how far the new programme had been built on his recommendations and how far on the work that had been done since then. The Sub-Committee particularly desired that Prof. Dastur should clearly state whether or not he accepts the division of bad-opening into two different kinds, *viz.*, (1) nutritional bad opening and (2) Tirak in Dr. Mason's sense. Regarding remedial measures, Dr. Mason's point of view regarding the buffering effect of manure, clay, etc., on soils, thus reducing the alkali poison effect, should be kept in mind and examined. The results of the first year's experiments bringing in these measures were not yet available. The Sub-Committee noted that something definite was expected within the next three years and suggested as the clear objective of these three years' work—(1) the means of diagnosing whether an epidemic of Tirak is imminent; (2) the devising of measures which can be applied at an early stage to stave off such an attack.

The Sub-Committee observed that there was to be much more concentration on the soil side and considered that even with the omission of the Assistant Physiologist, the scheme tended to be over-weighted on the side of pure physiology. The Sub-Committee suggested, therefore, that one of the Physiologists might be replaced by a Soil Chemist. The proposal was otherwise approved.

The Sub-Committee decided further that at the next meeting Prof. Dastur should put up a note stating clearly and fully the items of work for which he is responsible and those which would be tackled elsewhere."

The report of the Sub-Committee was adopted.

(c) *Scheme for Cotton Jassid Investigation in the Punjab.*

Proposals for the extension of the above scheme for a period of three years from the 1st April 1940 were considered by the Agricultural Research Sub-Committee, which made the following recommendations :—

"With regard to the programme of work proposed during the period for which an extension has been applied, the Sub-Committee was of the opinion that the items of work suggested, which included entomological, botanical, agronomical and genetical investigations were of too wide a scope to be satisfactorily dealt with by the existing staff. It was therefore suggested that item 4—the study of the inheritance of resistance—should be omitted, that botanical work should be continued by the existing botanical staff of the Department but not included in the scheme, that the agronomic investigations proposed should be limited and that work should be concentrated on the entomological aspects of the problem. It was decided that a revised programme on these lines should be submitted."

The Sub-Committee's recommendations were accepted.

(d) *Survey of Goghari Cotton in Gujerat.*

While considering the progress report on the scheme for 1937-38, the Committee, at its meeting in July 1938, observed that though the scheme was not due to terminate until December 1939, it appeared to have completed its function as the short stapled *Goghari* had disappeared completely during the past two years and it was decided that no further expenditure should be incurred on the scheme after April 1939.

The Director of Agriculture, Bombay, however, submitted proposals for the extension of the scheme up to the 31st March 1940 to enable a strict watch being kept in certain border areas where, it was feared, the danger of *Goghari* creeping in still existed. This proposal was considered by the Agricultural Research Sub-Committee which reported on it as under :—

"The Sub-Committee understood that the application had reference to a border area from which Goghari cotton might creep again into the area from which it had been eliminated. The Sub-Committee felt, however, that if it was necessary to make any special observations in the tract, so that action could be taken under the Cotton Control Act, these observations might well be made by the ordinary district staff of the Rural Development Department. The Sub-Committee could not see its way to recommend the grant."

The report of the Sub-Committee was adopted.

(e) *Bengal Comilla Cotton Scheme.*

The Agricultural Research Sub-Committee considered proposals for the extension of the above scheme for a period of five years from the 1st April 1940 to the 31st March 1945, for conducting the survey of the whole of Assam and up to the western boundary of Burma for finding out the most profitable types and to establish them later as pure lines.

The Sub-Committee recommended that this scheme should at this stage be sanctioned for two years only and the work concentrated entirely on survey.

The Sub-Committee's recommendation was accepted.

(f) *Hyderabad Bollworm Clean-up Scheme.*

The Agricultural Research Sub-Committee considered a proposal for the extension of the above scheme for a period of 18 months from the 1st October 1939 to the 31st March 1941 as it was considered essential

to carry on the work for another two seasons and to demonstrate the effectiveness of the measures before the Hyderabad Government were to continue the work.

The Sub-Committee recommended the extension applied for, subject to a revision of the results obtained from the current year's work at the next monsoon meeting.

The Sub-Committee's recommendation was accepted.

(g) *Plant Puller Propaganda Scheme in Baroda State.*

Proposals for the extension of the above scheme for a period of two years from the 1st January 1940 to continue the propaganda in favour of root pulling in areas where progress had been effective and to ensure that the practice did not lapse were considered by the Agricultural Research Sub-Committee which reported on them as under :—

"The Sub-Committee recommended that the scheme as submitted be approved subject to it being understood that at the end of this two years' extension the Insect Pests and Diseases Control Act, which it was noted the Baroda Government had passed, would be applied. The Sub-Committee further felt that in those areas where 100% uprooting was reported to be carried out now, as a result of propaganda, further propaganda was unnecessary and that the Act should be applied there immediately.

On the basis that the Indian Central Cotton Committee would be prepared to meet the pay and travelling allowance of the staff and in the light of the Secretary's note, the figures representing the Indian Central Cotton Committee's contribution required revision."

The report of the Sub-Committee was adopted.

SUBJECT 65.—*Proposed New Research Schemes :—*

(a) *Scheme for Improvement and Development of Cotton in Cutch State.*

Proposals for this scheme, which has for its object the improvement of the Cutch cotton crop, were forwarded by the Hon'ble the Resident for the States of Western India together with a copy of the "Report on the Improvement and Development of cotton cultivation in Cutch State," involving a net expenditure of Rs. 47,790 spread over a period of five years. The Agricultural Research Sub-Committee, which considered the proposals, reported as under :—

"The Sub-Committee considered the scheme for the improvement and development of cotton in Cutch State and recommended that it should be sanctioned, subject to the State agreeing to contribute cotton cess to the Indian Central Cotton Committee on the same basis as in British India and to paying the cost of the undernoted items in the budget of the scheme :—

(*a*)	Capital expenditure	Rs.	2,500
(*b*)	Upkeep of Livestock	,,	1,000
(*c*)	Rent of office and store	,,	1,000
(*d*)	Rent of land	,,	2,500
	Total ..	Rs.	7,000

The Research Sub-Committee further stipulated that the grant from the Committee should continue only so long as the Cutch Darbar maintains an efficient and duly qualified staff to work the scheme."

The report of the Sub-Committee was adopted.

(b) *Proposal for co-ordination of research work on Black-headed Cricket in Sind and Baluchistan.*

In September 1937 the Government of India sanctioned in part a scheme for the control of " Tid " in Baluchistan forwarded by the Chief Commissioner in Baluchistan on the understanding that as the Indian Central Cotton Committee was conducting a similar scheme in Sind, the two schemes might be conducted jointly. The details of the Baluchistan scheme forwarded by the Agricultural Officer in Baluchistan were examined by the Sectional Sub-Committee of the Agricultural Research Sub-Committee which reported on it as under :—

"The Sectional Sub-Committee which examined the proposal recommended as follows :—

" The Sub-Committee finds difficulty in judging the desirability of this scheme. Cotton is only one of the crops which the Black Cricket attacks. The area under cotton in the tract concerned is only 5,000 acres, but there are no particulars as regards the areas under the other crops concerned. Cotton may be relatively unimportant. Further, it is understood that no control measures are being carried out in the adjoining territory in Sind and the Committee doubted whether control measures in Baluchistan alone would have much effect. On the basis of the information before it the Sub-Committee does not recommend the proposal."

The Agricultural Research Sub-Committee, however, was of the opinion that it was worth while sanctioning the scheme ; the cost involved was not very great, while the results of the proposed investigation might be of considerable value. The Sub-Committee accordingly recommended that the scheme be sanctioned to run concurrently and in co-ordination with the scheme for investigation into the Black-headed Cricket in Sind."

(c) *Scheme for improvement of cotton crop in the Kaira District, North Gujerat.*

The proposals forwarded by the Director of Agriculture, Bombay Province, for the improvement of the cotton crop in the Kaira District during a period of five years were considered by the Agricultural Research Sub-Committee, which reported on them as follows :—

"The Sub-Committee recommended that the scheme be approved subject to the condition that it would not come into operation until the Government of Bombay had declared Kaira District as a protected area under the Cotton Transport Act to prevent the import of inferior cotton from Nandurbar."

The report of the Sub-Committee was adopted.

(d) *Model Projects for extension of improvements in cotton cultivation in :—*

(*i*) Surat District, Bombay Province.

(*ii*) Central Provinces and Berar.

(*iii*) Bombay—Karnatak, Southern Division.

The Sectional Sub-Committee of the Agricultural Research Sub-Committee, which examined proposals for these projects, reported as follows :—

" (*i*)—The Sub-Committee generally approved of this scheme but desired to indicate that the surveying of individual holdings would have to be made with the object of suggesting the re-arrangement of cropping for better land use. It was presumed that the co-operation of the cultivators had already been ensured.

(*ii*)—The Sub-Committee was of the opinion that while Mr. Mutkekar's note contains some excellent ideas, such as Farmers' Association and the importance given to compost, the idea as a whole had been misinterpreted. Apparently, one Senior Agricultural Assistant is to look after five groups each of about 200 acres and there is to be no other staff except a peon. It is also

proposed to have expenditure on certain items, like the fodder cutter worked by oil engine, winnowing machine and disc-harrow, also on such things as prizes and payment of part of cost of seed, none of which was intended in the original proposal. It is suggested that a scheme more on the model of the Surat one should be put up.

(*iii*)—The Scheme was generally approved but it is not considered desirable to have a subsidy of Rs. 5 per acre of cotton.

At the Agricultural Research Sub-Committee meeting, however, it was pointed out that model projects of this kind could not be confined to one crop only and that they would have to include all the crops grown in the particular holding. It was accordingly suggested that the model project schemes should be worked conjointly with the Imperial Council of Agricultural Research. After some discussion, the Sub-Committee decided that the consideration of these schemes should be postponed for detailed examination at the next meeting of the Committee and that, in the meantime, Mr. Jenkins should put up one complete model scheme on the lines suggested."

The report of the Sub-Committee was adopted.

(e) *Scheme for Bollworm Investigation in Sind.*

The proposals received from the Director of Agriculture, Sind, for bollworm investigation in Sind for a period of five years were considered by the Agricultural Research Sub-Committee which reported on them as under :—

"The Sub-Committee considered that conditions in Sind were not likely to be so vastly different from those, say, in the Punjab, where these pests had been investigated thoroughly, as to necessitate separate investigation in Sind. The Sub-Committee was of opinion that what was wanted in Sind was the application of the measures found to be most useful in the Punjab and in Bombay, namely a thorough clean-up of the cotton plants after the picking season is over. The Sub-Committee, therefore, recommended that the Director of Agriculture, Sind, should put up a revised scheme for a clean-up campaign on the lines of the one in operation in the Punjab. The Sub-Committee was informed that at the end of the next six months further results from the Punjab Clean-up Campaign would be available which might be useful for determining the lines on which the proposed Sind Scheme should be started."

The report of the Sub-Committee was adopted.

SUBJECT 66.—*Seed Distribution and Extension Scheme—Proposed extension of—Surat Scheme.*

The Agricultural Research Sub-Committee considered proposals received from the Registrar, Co-operative Societies and Director of Rural Development, for the extension of the Surat Seed Distribution and Extension Scheme for a period of three years from the 1st April 1940 and made the following recommendations :—

"The Sub-Committee understood that the amended Cotton Transport Act, 1923, would in the coming year prohibit the spread of Selection 1A by preventing seed imports into the tract south of the Tapti and that in addition the amended Cotton Ginning and Pressing Factories (Bombay Amendment) Act, which prohibits the mixing of inferior cotton with the superior variety, would be applied to the Surat area. The Sub-Committee was informed that the Government of Bombay contemplated amending the Cotton Control Act in the area lying south of the Nerbudda with the exception of Olpad Taluka in order that the growing of any cotton inferior in quality to *1027 A. L. F.* could be prohibited. The Sub-Committee noted that though the area under *1027 A. L. F.* in the year under report had been reduced, the tendency at present was towards a distinct increase in the area of 1027 A. L. F. sown in the year 1939-40. The Sub-Committee recommended that this scheme should be extended on the lines laid down by the Director of Rural Development, Bombay, provided that the Government take the necessary legislative steps indicated above. The Sub-Committee expressed the hope that everything would be done to encourage the growth of pure cotton."

The report of the Sub-Committee was adopted.

SUBJECT 67.—*Financing of seed schemes—Contribution by Provinces or States—Review of position—Reference from last meeting of the Committee.*

The Agricultural Research Sub-Committee which considered this subject reported as under :—

"In accordance with the decision of the Committee at its last meeting, the Agricultural Research Sub-Committee reviewed the question of financing of seed schemes. It was pointed out that since the decision of the Committee at its meeting in March 1937 regarding the manner of allocation of expenditure on such schemes between the Committee and the Provincial Governments and States, the Committee had already moved a good deal towards the object in view and that whereas, prior to that date, seed distribution and extension schemes were entirely financed by the Committee, a proportion of the cost was now met by the Provinces and States concerned, and that after a scheme had been in force for five years the expenditure borne by the Committee was still further reduced. The Sub-Committee attached great importance to seed distribution schemes as bridging the gap between the Experimental Station and the cultivator, and it was of the opinion that no change in the existing conditions governing grants for such schemes should be made for the present. The Sub-Committee, however, decided that the specific points raised by the Government of India should be borne in mind when seed distribution schemes come up for consideration, that each scheme should be examined and sanctioned on its own merits and that in the allocation of expenditure the bigger share should not necessarily fall on the Committee."

The report of the Sub-Committee was adopted.

SUBJECT 68.—*Re-orientation of cotton breeding work—Direction and guidance to Cotton Breeders—Letter from Mr. Roger Thomas.*

SUBJECT 69.—*Policy of the Committee with regard to Seed Distribution and Extension Schemes—Reference from November meeting of the Committee.*

It was decided to postpone consideration of these two subjects until Mr. Roger Thomas returned to India and could be present at such a discussion.

SUBJECT 70.—*Scheme for Cotton Breeding Investigations for production of long staple cotton for cultivation in Sind—Letter from Mr. J. B. Hutchinson.*

The Committee acknowledged the helpful advice given by Mr. Hutchinson and the two consignments of seed which he had sent for long staple cotton research in Sind.

SUBJECT 71.—*Report of the Agricultural Research Sub-Committee.*

The recommendations of the Agricultural Research Sub-Committee on some of the other subjects considered by it but not dealt with separately on the agenda of the main Committee are given below :—

Appointment of members on the Sub-Committee.

"The Sub-Committee resolved that Messrs. J. Vonesch and M. Durutti be appointed on the Agricultural Research Sub-Committee in the vacancies caused by the retirement of Rao Bahadur Sir Madhaorao Deshpande and Mr. D. K. Kane, respectively.

Standardised form for seed distribution schemes.

The Sub-Committee recommended that the following standardised form should be followed in future for giving information in respect of seed distribution schemes :—

1. Date of sanction of scheme.
2. (*a*) Total amount sanctioned.
   (*b*) Amount so far spent.
3. Names of previous schemes which have been or were in progress on the same lines.

4. Name of variety and results of trials as regards—
   (*a*) yield,
   (*b*) ginning percentage, and
   (*c*) staple length.

5. Field test results on new variety compared with local—
   (*a*) yield per acre,
   (*b*) average ginning percentage,
   (*c*) staple length,
   (*d*) market price per *candy* of 784 lbs.

6. Progress year by year in acres.

7. (*a*) Total area under cotton in the tract concerned.
   (*b*) Total area desired to be covered by the proposed new variety.

Scheme for cultivation of long staple cotton in Bengal—Letter from Director of Agriculture, Bengal.

The Sub-Committee was unable to recommend this scheme as it stood at present. In the first instance, it was not very clear what the scheme was. Secondly, the proposals had not been approved by the Bengal Provincial Cotton Committee. Thirdly, neither the Director of Agriculture nor any representative from Bengal was present to explain the scheme. The account given of the trials so far made was most inadequate. It was decided that further consideration of the scheme should be postponed until the Secretary had been to Bengal and investigated the position on the spot in consultation with the Director of Agriculture.

(2) The Sub-Committee deprecated the giving of new names to old varieties as for instance Dacca No. 2 for *Punjab-American 289F*, and suggested that this should be pointed out to the Economic Botanist, Bengal.

Description of cotton varieties throughout India according to the method recommended in the Indian Journal of Agricultural Science, October 1938, *pages* 567 *to* 602.

"The Sub-Committee was of the opinion that the cotton breeders should, as a first step, describe in the manner suggested, the cotton varieties of commercial importance in their areas and that these descriptions should then be published as a single volume by the Indian Central Cotton Committee."

The recommendation of the Sub-Committee was accepted.

The following resolution was passed :—

RESOLUTION.—"That the Report of the Agricultural Research Sub-Committee, as amended, be adopted."

SUBJECT 72.—*Report of the Standing Finance Sub-Committee.*

The Report* of the Standing Finance Sub-Committee was adopted.

SUBJECT 73.—*Scheme for investigating the conditions under which one Indian weaver may be able to look after at least eight looms—Reference from November meeting of the Committee.*

SUBJECT 74.—*Technological Research—Annual Report of the Director, Technological Laboratory.*

SUBJECT 75.—*Technological Research—Report of the Technological Research Sub-Committee.*

The Report of the Technological Research Sub-Committee, as amended, is given below :—

"The Technological Research Sub-Committee met at 10·30 a.m. on Wednesday the 2nd August 1939.

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* Appendix II (page 54).

Before the Minutes of the last meeting of the Sub-Committee were confirmed, the President said that there were one or two points that he would like to mention in connection with Subject 4, " Manufacture of artificial silk from Indian cotton " and the recommendation of the Committee for the installation of a pilot plant. The proposal had been sent up to the Government of India, who had asked for more information on certain points. One of the questions raised was whether it was worth while having a pilot plant and whether the results achieved on such a plant would give any real indication regarding the commercial possibilities of manufacturing chemical cotton in India. The second point was whether a pilot plant was necessary for the grading of linters. On both these points he had had some discussion with the Vice-President who had assured him that the results obtained by the proposed pilot plant would give a reasonable indication of the commercial possibilities of manufacturing chemical cotton in this country and that though it was not absolutely necessary to have a pilot plant for the grading of linters, it was desirable to have one for testing linters for export purposes. If possible, he would like to have both these points confirmed by the Sub-Committee. The third point was regarding the continuance of Dr. Thoria whose period of service had been extended up to the 28th July 1941 for work in connection with the proposed experiments. The question was that if the pilot plant was not to be installed or if the proposal was going to take some months to materialise, how was Dr. Thoria going to be employed ? Was he going to be kept on doing nothing until a pilot plant were installed ?

After some discussion, it was recorded that the Sub-Committee attached great importance to the desirability of investigating the possibilities of manufacturing chemical cotton in India. It was noted that this could not be done until a suitable pilot plant were purchased and installed. The Sub-Committee, therefore, desired to reiterate its decision regarding the purchase of a pilot plant and decided that the Government of India should be requested to sanction the proposal at as early a date as possible. The Sub-Committee was of the opinion that the results obtained from the proposed pilot plant would give a reasonable indication of the commercial possibilities of manufacturing chemical cotton in India.

It was, however, noted that although for the grading of linters a pilot plant was not essential, it would be useful for testing linters for export purposes.

With regard to the continuance of the services of Dr. Thoria, it was noted that if a pilot plant was going to be installed, Dr. Thoria would be usefully employed in connection with the experiment for the manufacture of chemical cotton. If, on the other hand, a pilot plant was not going to be purchased then the question of continuance of Dr. Thoria's post would have to be re-considered.

Mr. J. Vonesch and Capt. S. R. Pocock were appointed members of the Sub-Committee for the current financial year *vice* Messrs. J. L. Hurschler and J. Tinker, resigned.

Subject 74. The Report of the Director, Technological Laboratory, was considered and approved, subject to the deletion of the last sentence of sub-paragraph 12 on page 8 of the printed (proof) copy of the Report. It was suggested that the Director, Technological Laboratory, should prepare a leaflet indicating the importance of other fibre characteristics than length, *e.g.*, weight, diameter, fibre distribution, etc.; on the spinning qualities of cotton as a guide to cotton breeders and to enable them to interpret the Spinning Test Reports more accurately.

The reports of the Technological Assistants were considered and the Sub-Committee endorsed the recommendation of the Agricultural Research Sub-Committee that the reports be approved subject to the criticisms and comments made by the Director, Technological Laboratory.

The report on the work done by Mr. M. U. Parmar was approved.

Subject 73. The Sub-Committee considered the scheme for investigating the conditions under which one Indian weaver might be able to look after 8 looms, but decided, in view of the replies received from Millowners' Associations and individual mills, that the proposal be dropped.

The decision of the B. I. S. F. A. to recognise the Technological Laboratory as a Neutral Testing House for India to test artificial silk yarns was noted and it was decided to give publicity to it.

The results of mill tests on samples of Jarila cotton grown in different parts of Khandesh were recorded.

In connection with the suggestion for finding wider uses for short staple cotton, the Sub-Committee considered a note on the manufacture of absorbent cotton from short staple Indian cottons, and decided that more complete information in respect of the cost of production, etc., should be submitted for the consideration of the Local Sub-Committee before the question of issuing a leaflet on the subject could be taken up. It was pointed out that the manufacture of absorbent cotton from Indian cotton in India was not a new thing as it was already being manufactured in several parts of India on a fairly large scale.

The Sub-Committee considered an application from Dr. Kanyo Nieh for permission to work for six months at the Technological Laboratory and decided that as the applicant was apparently a Government servant, his application should come through the proper official channel. It was also decided that further information should be obtained from the applicant as to the nature of the work he wished to do at the Laboratory. On receipt of this information the matter should be referred to the Local Sub-Committee for decision."

SUBJECT 76.—*Proposal for grant from the Committee for touring in India and abroad—Letter from Mr. B. B. Mulchandani, Cotton Breeder, Sind.*

The Committee accepted the recommendation of the Agricultural Research Sub-Committee that no useful purpose would be served by flying visits to so many centres, and rejected the proposal.

SUBJECT 77.—*Award of Research Studentships—Letter from the Director of Agriculture, United Provinces.*

The Committee was unable to accept the suggestion of the Director of Agriculture, United Provinces, that the present procedure for the appointment of research students should be changed and that scholarships should be awarded for specialist training irrespective of the immediate availability of specialist posts on completion of training.

SUBJECT 78.—*Application from Mr. M. R. Thadani, for foreign scholarship for studying cotton marketing in U.S.A.*

The Committee accepted the recommendation of the Agricultural Research Sub-Committee that the making of grants for the purpose of enabling a student to continue his studies further was opposed to the policy of the Indian Central Cotton Committee, and rejected the application.

SUBJECT 79.—*Broadcasting of daily cotton prices in Sind—Sind Government Resolution.*

The resolution of the Sind Government was recorded.

SUBJECT 80.—*Supervision and conduct of research schemes financed by the Committee—Resolution by Ch. Shiva Mangal Singh.*

The resolution was withdrawn.

SUBJECT 81.—*Deccan Canals (Banilla) Scheme—Revised proposals for—.*

The Committee at its meeting held in November 1938 sanctioned on the recommendation of the Agricultural Research Sub-Committee, an extension of the scheme for a period of five years from 1st April 1939 at a cost not exceeding Rs. 6,000 to the Committee to meet the expected deficiencies between the estimated costs and receipts over 5 years.

Revised proposals submitted by the Director of Agriculture, Bombay, requesting that the entire expenditure on the scheme amounting to Rs. 6,000 over the extension period were considered by the Agricultural

Research Sub-Committee, which recommended that the Committee should bear, in accordance with the procedure laid down, 75% either of the cost of staff or of contingencies. The recommendation of the Sub-Committee was approved.

SUBJECT 82.—*Indo-British Trade Pact—Resolution by Mr. Chandulal P. Parikh.*

The resolution was withdrawn.

SUBJECT 83.—*Control of importation of artificial silk and cotton yarn—Resolution by Mr. Chandulal P. Parikh.*

It was urged that owing to the low duty on imported yarn, Indian cotton was being replaced to the extent of 5 lakhs bales. Japan's quotations for artificial silk yarn were so low that Indian mills could not compete with them. The raising of the import duty on cotton and the American subsidy aggravated the position which required to be immediately remedied. Also imported yarns depressed the prices of Indian cotton which was consumed in mills and so adversely affected the cultivator. The suggestion was accordingly made that either the duties should be raised or quotas fixed.

In this connection, the necessity of giving due consideration to the requirements of the handloom industry, which was unorganised, was urged. The following resolution was passed unanimously :—

RESOLUTION.—"This Committee is of the opinion that early steps should be taken to control the importation of artificial silk yarns by raising the tariff or by including them under the quota. With regard to cotton yarn, similar action should be taken with due regard to the interests of the handloom weaver."

SUBJECT 84.—*Proposal for grading and marking of* 1027 *A.L.F. cotton under the Agricultural Produce (Grading and Marking) Act,* 1937.

The Agricultural Research Sub-Committee considered the draft Agricultural Produce (Grading and Marking) (Cotton) Rules* together with a note by Mr. Livingstone, Agricultural Marketing Adviser, on the draft specifications for *1027 A.L.F.* cotton and made following recommendations which were accepted :—

"The Sub-Committee recommended the following alterations in the proposed rules :—

Under item 5 " Method of marking," No. 2(*b*) and (*c*) should be deleted.

Under item 6, No. 2 should be deleted and replaced by (*e*) under " General characteristics," *viz.*, " Bye-laws of East India Cotton Association in regard to false or fraudulent packing shall apply in every case." Under the head " General characteristics " the Sub-Committee suggested the elimination in (*a*) of the words " in roller gins " and " mature." It suggested further that (*c*) should read " shall be clean and reasonably free from leaf, seed, stain and other imperfections," and that (*d*) and (*e*) should be omitted. There was considerable discussion of the general term " special characteristics."

Mr. Allan stated that the special characteristics recorded were almost exactly like those which were being applied in the Baroda State in the marking of *1027 A.L.F.* and felt that the State would be willing to accept this system as being much on lines of their present one.

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* Appendix III (page 61).

Mr. Joshi thought that the Bombay Rural Development Department might consider the starting of experimental centres on lines similar to those carried on by the Baroda Government during the last two years.

The Sub-Committee was of the opinion that the proposal might be tried out on experimental lines in both areas and on these conditions it accepted the draft rules as amended."

SUBJECT 85.—*Scheme for interspecific hybridisation in cottons at Surat—Request for additional grant.*

The Agricultural Research Sub-Committee reported on this subject as follows :—

"The Sub-Committee considered the proposed expansion of the interspecific hybridisation scheme at Surat to include provision for cytological work and recommended that this work should be undertaken at the Indore Institute of Plant Industry where, it was understood, the necessary staff and facilities were available. The position with regard to this work should be reviewed in 1941 when, if necessary, provision for cytological work being done at Surat should be considered by the Committee."

The report of the Sub-Committee was adopted.

SUBJECT 86.—*Cotton Wilt Breeding Schemes in Bombay Province—Proposals for the appointment of an assistant for affording relief to Dr. B. N. Uppal, Plant Pathologist to the Government of Bombay.*

The Committee accepted the recommendation of the Agricultural Research Sub-Committee for the appointment of an assistant for Dr. Uppal on the conditions stated.

SUBJECT 87.—*International Cotton Conference, Washington, September 1939—Delegation of India's representatives.*

It was explained that as the proposed Conference was of an exploratory nature, the Government of India proposed to appoint the Indian Trade Commissioner in America as the Indian delegate. It was, however, agreed, that if and when the main Conference was called, some one fully acquainted with Indian conditions and opinion should be appointed in consultation with the Indian Central Cotton Committee, to represent India.

D. N. MAHTA.

RESOLUTIONS.

No.

Application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936, to Sind.

1 "The Indian Central Cotton Committee expresses its disappointment at the decision of the Sind Government to postpone the application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act and the Rules to the next year and desires to reiterate its oft-expressed view that in the interests of the reputation of Sind Cotton in the Indian market and in the markets abroad, and in order that the malpractices of mixing and adulteration may be stopped in the newly developed cotton areas in Sind, the Act and the Rules framed thereunder should be brought into force without further loss of time.

The Committee is further of the opinion that the Sind Government should be intimated that the contribution of the Central Cotton Committee towards Sind Seed Distribution and Extension Scheme would be considered in the light of the action taken by the Sind Government on this resolution."

Report of the Standing Finance Sub-Committee.

2 "That the Report of the Standing Finance Sub-Committee be adopted."

Control of importation of Artificial Silk Yarn.

3 "This Committee is of the opinion that early steps should be taken to control the importation of artificial silk yarns by raising the tariff or by including them under the quota. With regard to cotton yarn, similar action should be taken with due regard to the interests of the handloom weaver."

Report of the Technological Research Sub-Committee.

4 "That the Report of the Technological Research Sub-Committee, as amended, be adopted."

Report of the Cotton Forecast Improvement Sub-Committee.

5 "That the Report of the Cotton Forecast Improvement Sub-Committee be adopted."

Report of the Special Sub-Committee on Hedging Facilities.

6 "That the Report of the Special Sub-Committee on Hedging Facilities be adopted."

Report of the Agricultural Research Sub-Committee.

7 "That the Report of the Agricultural Research Sub-Committee, as amended, be adopted."

No.

Subsidy on exports of American cotton.

8 "In the opinion of the Indian Central Cotton Committee a very grave situation has arisen as a result of the grant by the U.S.A. of a subsidy on exports of American cotton. The Committee accordingly recommends to the Government of India, in the interests of the cotton grower, to take immediate steps to give effect to the following measures :—

(1) The grant of subsidy by America has so changed the situation and the conditions now facing the Indian cotton grower are so serious as to make it necessary for the Government of India to bring into operation Article 4 of the Indo-Japanese Trade Pact and Article 15 of the Indo-British Trade Agreement with a view to adequately increasing the import duties on cotton cloth from Japan and the United Kingdom or restricting the quantity of cloth imported from these two countries,

(2) Heavy import duty should be immediately imposed on all yarn imported into India,

(3) Adequate import duty should be imposed on all artificial silk cloth and yarn so as to effectively restrict their importation into India,

(4) A Barter agreement should be arranged with the United Kingdom to take off the Indian market a definite quantity of Indian cotton for war reserve purposes,

(5) This Committee is further of the opinion that Japan should undertake to regulate its offtake of Indian cotton so that its shipments may be fairly evenly distributed over the year and not left to the tail end of the crop movement before making its purchases.

If the above recommendations are accepted by Government and it is considered desirable to enhance duties on imported cotton which competes or is capable of competing with Indian cotton with a view to increasing the use of Indian cotton in mills in India, the Indian Central Cotton Committee will be prepared to depute a Committee of its members to discuss the question."

APPENDIX I.

SUBJECT 9.—*Summary of Proceedings of the Local Sub-Committee.*

Four meetings of the Sub-Committee were held since the meeting of the Committee in November 1938. Messrs. J. L. Hurschler and A. P. Darlow having resigned, their places on the Sub-Committee were taken by Messrs. J. Vonesch and W. S. Priestley who succeeded them on the Committee.

2. The Sub-Committee considered in January 1939 a representation from Mr. M. B. Patel, a member of the Committee, suggesting the inclusion of the Nawapur Peta of West Khandesh district in the Surat Protected Zone. The proposal was referred to the Director of Agriculture, Bombay, who intimated that the Government of Bombay had directed that a scheme for the conversion of the Nawapur Peta into an area for the cultivation of 1027 A. L. F. cotton might be framed and submitted to Government after the question of the cotton policy in Surat had been finally settled. The Sub-Committee accordingly felt that no further action was necessary for the present.

The Sub-Committee also considered the views of the Director of Agriculture on the constitution of the Nawapur Peta as a separate protected zone, which was recommended by the Cotton Forecast Improvement Sub-Committee in connection with the revised trade classification of Indian cottons, under which cotton grown in the Peta was proposed to be classified as "*Surti*." As, however, the Director was of opinion that for various reasons the constitution of the Peta into a separate protected zone would be difficult, he suggested that the matter might be dropped for the present and attempts made to cover the entire tract with 1027 A. L. F. watched before any action was taken. Subsequently, on a reference from the East India Cotton Association, the Sub-Committee agreed that cotton grown in the Nawapur Peta should not be included under "*Surti*" until the Peta was protected under the Cotton Transport Act.

3. In accordance with the decision of the Sub-Committee at its meeting in October 1938, the Government of India were addressed to examine the possibility of amending the Indian Cotton Cess Act so as to make it compulsory for mills in British India to supply monthly figures for consumption of foreign cotton in addition to the consumption figures for Indian cotton supplied to the Committee at present. Meanwhile, enquiry was made of the Bombay Millowners' Association as to whether the Committee could be supplied in advance with information regarding mill stocks and mill consumption of cotton in India collected by them on behalf of the International Federation of Master Cotton Spinners' and Manufacturers' Associations. The Association was willing to co-operate in this matter, provided the statistics were not published by the Committee before the international statistics were released by the Federation. The Sub-Committee, however, was of the opinion that should the proposal to amend the Indian Cotton Cess Act not find favour with the Government of India, the Millowners' Association should be informed that the Committee would be prepared to share the cost of collecting the statistics in question, provided the stipulation referred to above were removed. It was subsequently advised that the object in view could not be attained by an amendment of the Indian Cotton Cess Act and that separate legislation would probably be required for the purpose. The attached draft Bill * was accordingly considered by the Sub-Committee at its meeting in July 1939 and in approving of it, the Sub-Committee desired that provision should be made in the statement to be issued under Section 5 of the draft Bill to indicate the source of the foreign cotton consumed. It was further decided that, before addressing the Government of India on the subject, the draft Bill should be forwarded to the Millowners' Associations of Bombay and Ahmedabad for such comments as they might like to make. Action has been taken accordingly.

4. The Sub-Committee at its meeting held in October 1938 considered a letter from Dr. Chellaram Shewaram, Karachi, proposing the appointment of a Committee of experts to investigate whether quality cottons like Sind *Sudhar* were spun to their maximum spinning capacity by mills in India and to suggest ways and means for obtaining better prices for such cottons, and decided that the views of the Ahmedabad and Bombay Millowners' Associations in the matter should be obtained. The replies received from these Associations indicated that they did not share the views of Dr. Chellaram Shewaram and the Sub-Committee accordingly decided that the replies should be communicated to him.

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*Not printed.

5. The Sub-Committee examined the general question as to whether linters should be liable to the same cess as ordinary cotton and decided, in the interest of long staple cotton cultivation, to recommend to the Government of India that linters should be exempted from the cess leviable on cotton under the Indian Cotton Cess Act, 1923.

6. The Sub-Committee considered draft rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act and decided that the working of the Act in practice should be watched and if, as a result of experience, it should be found necessary to discuss any specific point or points in connection with it, the matter should be again considered. The rules have since been finally published.

7. The Sub-Committee approved of the recommendation of the Standards Sub-Committee that universal standards should be prepared also for 4F Saw-ginned-Punjab, 289F Roller-ginned-Punjab and Sind, and 289F-Saw-ginned-Punjab and Sind.

8. The Committee at its meeting in November last passed a resolution drawing the attention of the Government of India to the serious menace which the import of rayon yarn constituted to the consumption of Indian cotton and requesting them to examine the question of increasing the import duty on rayon. The reply of the Government of India to the effect that the views of the Committee had been noted was recorded.

9. The Standards Sub-Committee, while passing the universal standards for Berars and Broach for the 1938-39 season, also compared the standards of the Liverpool Cotton Association for these cottons and expressed the view that the Liverpool standards were much inferior to, and not at all representative of, the actual growth of Berars and Broach. The views of the Standards Sub-Committee were considered by the Sub-Committee and it was decided that the Vice-President should take up the matter with the Liverpool Cotton Association in consultation with Sir Purshotamdas Thakurdas and Mr. M. S. Durutti. The Liverpool Cotton Association, who were addressed in the matter, have requested to be supplied with copies of sets of standards used by the respective Associations in India and the East India Cotton Association to whom the matter was referred have suggested that an additional set of the Universal Standards should be prepared for the use of the Liverpool Cotton Association during the next cotton season. The suggestion of the East India Cotton Association was considered by the Sub-Committee and it was decided that Universal Standards of Broach and Oomras passed at Bombay and those of Bengal, Sind, S. G. Punjab-American and R. G. Punjab-American passed at Karachi, should be prepared from the next season's crop and supplied to the Liverpool Cotton Association, the cost of the standards and transport charges being borne by the East India Cotton Association and the Karachi Cotton Association, respectively.

10. The Bombay Millowners' Association in April 1938 requested the support of the Committee to their representation to the Government of India drawing attention to the recent heavy increase in the duties on yarn and piecegoods imported into Egypt and to its adverse effect on India's export trade in cotton yarn and piecegoods. The Sub-Committee at its meeting in June 1938 decided that the Government of India should be requested to address the Government of Egypt with a view to obtaining restoration of the old level of duties on the ground that as the cloth and yarn exported by India to Egypt was of coarse counts, Egypt would not be affected, while on the other hand the restoration would be beneficial to the Indian grower of short staple cotton. The Sub-Committee at its meeting in March 1939 considered and recorded the reply of the Government of India to the effect that it had not been possible to secure any reduction in the Egyptian tariff duties on cotton textile goods but that, as far as the Government of India were aware, the Egyptian Government were instituting a quota system in respect of imports of cotton textiles into Egypt and quotas were proposed to be allocated to the various countries on the basis of their takings of Egyptian raw cotton during the cotton years 1935-36, 1936-37 and 1937-38. On this basis, India was likely to be allotted a quota of 7,616,000 square metres calculated at 5.44% of the total global quota of 140 million square metres.

11. The Sub-Committee considered a letter from the Millowners' Association, Bombay, stating that deterioration in Sind *Sudhar* cotton was taking place and suggesting that the Committee should take energetic action to maintain the quality of such cottons. The Sub-Committee decided that the Sind Government should be requested to apply the provisions of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act for the licensing of gins and presses, as early as possible,

and to investigate the possibility of the introduction of a Cotton Control Act with a view to setting apart certain areas for the exclusive cultivation of long staple cottons. Subsequently, on receipt of the views of the Director of Agriculture, Sind, the Sub-Committee decided that these should be forwarded to the Millowners' Association together with the opinion of the Sub-Committee which was to the effect that if the consumers in India and Lancashire and exporters were more discriminate in their purchases and appreciated good quality and paid a commensurate price for it, beneficial results might be obtained in the matter of improvement in quality and the observed deterioration in quality checked.

12. The Sub-Committee considered a letter from Mr. S. D. Saklatvala stating that Kumpta cotton was being mixed with Jayawant, the mixture being passed off as Jayawant, and suggesting that steps should be taken to maintain the purity and reputation of Jayawant. The opinion of the Sub-Committee was that the remarks of the Director of Agriculture, which had been called for, should be awaited, and that the Government of Bombay should then be requested to declare the Jayawant cotton area as a Notified Area under the meaning of sub-section (1) of section 3A of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act. Sub-section (1) of section 3A lays down that in any area notified by the Provincial Government no cotton which is ginned or pressed in a cotton ginning or cotton pressing factory shall contain any admixture of cotton. The Director of Agriculture, Bombay, subsequently reported to the Sub-Committee that the Bombay Government had under consideration the application of the relevant clause of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act to all areas in order to prevent mixing and that with that object he had been asked to prepare a statement showing the types of cotton which should be scheduled as inferior types and not to be mixed with superior cotton in areas where the clause to prevent mixing might be applied. In view of the steps being taken, it was decided that no action for the time being was necessary.

13. On a reference from Sir William Roberts the Sub-Committee decided that LSS and N. T. (now termed 289F/43 and 289F/K.25) and Sind *Sudhar* (289F/1) should be included in the list of " Trade Varieties of Indian cotton " for tests at the Technological Laboratory and it was further decided in view of the difficulty of obtaining latest production figures of various cottons in time for inclusion in the Technological Report on Standard Indian cottons, that the previous year's figures of production and acreage should be given. The Sub-Committee at its meeting held in July 1939 considered a letter from the Director, Technological Laboratory, stating that it had not been possible to secure representative trade samples of N. T. (289F/43 and 289F/K.25). It was decided that the Director of Agriculture, Sind, should be asked as to what distinction was made between these two types and what was ordinarily known as N. T. and that on receipt of this information the matter should be reconsidered. The Director of Agriculture has been addressed accordingly.

14. In March last, the Government of India asked for the opinion of the Committee on the desirability of renewing the Convention and Protocol regarding the commercial relations between India and Japan either as they stand, or in a modified form, or of negotiating an entirely new Agreement. The views of the Sub-Committee are contained in the attached letter * sent to the Government of India.

15. The Wider Markets Sub-Committee, at its last meeting, considered a suggestion that steps should be taken to secure a reduction in the cost of carrying stocks of Indian cotton in Liverpool and decided that should the information called for from the Indian Government Trade Commissioner, London, show the cost for Indian cotton to be higher than that for American cotton, the Lancashire Indian Cotton Committee should be addressed in the matter. The information received from the High Commissioner for India, London, indicated that the cost of stocking an equal quantity, *viz.*, 48,000 lbs. of American and Indian cotton was £78-19-4 and £67-14-3 respectively. It was decided, however, that the Liverpool Cotton Association should be informed that in view of the better packing and lower intrinsic value of Indian cotton the Sub-Committee was not satisfied with the existing rates of carrying stocks in Liverpool as these militated against the wider use of Indian cotton in the United Kingdom.

16. The Indian Central Cotton Committee at its last meeting passed the following resolution on the question of subsidy on American cotton exports :—

" In view of the news received recently to the effect that U. S. A. intend granting an export subsidy for American cotton to the extent of 1.25 to

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* Not printed.

2 cents per lb. of cotton exported from the U. S. A., this Committee recommends that Government of India should consider without delay the necessity of the indigenous cotton market being preserved for Indian cotton and urges them to adequately raise import duties on subsidised cotton, cotton cloth and yarn in such effective manner as will prevent cloth and yarn made out of bounty-fed American cotton from replacing manufactures of Indian cotton and to take such other effective steps in consultation with the Indian Central Cotton Committee as may appear feasible."

The resolution was forwarded to the Government of India for necessary action. Subsequently, in view of President Roosevelt's reported agreement to a cotton export proposal of 2 cents per lb. subsidy on approximately 7,000,000 bales of this year's crop, a telegram was sent to the Government of India on behalf of the Sub-Committee, requesting that immediate action should be taken on the Committee's resolution. The reply of the Government of India stating that they had been informed that the amendment proposed by Senator Bankhead relating to the cotton export subsidy had been rejected by the American Senate, was considered by the Sub-Committee at its meeting in July 1939. The Sub-Committee observed, however, that the U. S. House of Representatives had since approved of an expenditure of about $35,000,000 for cotton export subsidy and that although the details in this connection had not yet been announced it was understood that the subsidy would come into operation from the 1st October 1939. The Sub-Committee regarded the question as one of grave concern to the Indian cotton industry and decided that as there was very little time left before the subsidy would become effective the Government of India should be requested to give some indication as regards the action they proposed to take in the matter. The Government of India have been addressed accordingly.

During discussion, reference was made to the reported Cotton-Rubber Barter Agreement between the U. S. A. and the British Government and it was assumed that the stocks of American cotton for which provision was made in the Agreement were intended to be used for making ammunition. The Sub-Committee felt that Indian cotton would be both better and cheaper for such purposes and it desired that this point should be brought to the notice of the Central Government. Action has accordingly been taken.

17. The Sub-Committee considered the subject of variations between results of tests on trade and standard varieties of Indian cottons and its observations are given below :—

" (1) The Sub-Committee noted that the difference in blow-room and card-room loss between the standard Indian cottons and commercial samples of the same cottons was largely attributable to the special care taken in picking, storage and ginning of the samples of standard Indian cottons supplied by the Cotton Breeders, which had the additional great advantage of being ' well-grown.'

(2) The Sub-Committee observed that the big differences in spinning performance and strength between the two samples of cottons were, in large measure, due to the mixing that takes place in the trade varieties. In Madras, for instance, there was practically no mixing in the case of Cambodia cotton, and the results of tests on standard and commercial samples of that cotton, therefore, did not show much variation.

It was noted that the general similarity between the blow-room loss in the standard and trade samples of Cambodia was due not only to the purity of the seed but also to the fact that Cambodia possesses big bolls which open well and fully at maturity and enable ripe bolls to be picked clean and free from broken leaf and bracts.

(3) The Sub-Committee agreed that it would be useful if a comparative statement, setting out side by side the results of tests carried out at the Matunga Laboratory on standard cottons and commercial samples of the same varieties, were prepared and published every year.

(4) As regards the suggestion of the Bombay Millowners' Association that Laboratory tests on farm and commercial cottons should be supplemented by mill tests on 100 lb. samples, it was suggested that the Association might be informed that the Committee, at its last meeting, had already decided, with a view to determining what allowance should be made for tests carried out at the Laboratory against similar tests conducted by mills, that the Director,

Technological Laboratory, should purchase a bale each of Broach, 289-F, Jayawant and Oomras and carry out tests on them at the Laboratory, at the same time sending a 100-lb. sample of each cotton to two or three mills for similar tests for purposes of comparison.

The Sub-Committee agreed that the exact nature of these tests might be decided on by the Technological Laboratory in consultation with an expert Sub-Committee of Carders and Spinners.

(5) The Sub-Committee was of the opinion that a copy of the papers, together with a copy of the decisions thereon, should be forwarded to all Directors of Agriculture and to Rai Bahadur S. V. Kanungo, Indore State, for suggestions regarding the steps that might be taken to improve the position. It was suggested that their special attention should be drawn to the need for extension of the seed distribution arrangements to ensure adequate supply of pure seed for sowing purposes."

18. The Sub-Committee considered the notification issued by the Gwalior Government under the Cotton Transport Act, prohibiting the import of Rajputana cotton into the State and declaring the districts of Shajapur, Ujjain, Mandsaur and Sardarpur a protected area, and also the notification issued by the Government of India prohibiting the despatch by rail of Rajputana cotton from Rajputana and Central India railway lands to certain specified railway stations in Gwalior State. It was decided that in order to effectively prohibit the import of Rajputana cotton into the protected area notified, a further notification should issue prohibiting the despatch of Rajputana cotton from railway stations in British India lying outside the area mentioned in the Government of India's notification referred to. It was also decided that the East India Cotton Association should be requested to include the following stations in the list of places tenderable under " Central India " in Schedule B of the bye-laws of the Association :—

Khachrod,	Agar,	Jawad,
Barnagar,	Bajana,	Rajgarh,
Shujalpur,	Bhesoda,	Sardarpur.
Bercha,	Gangapur,	

The necessary notification has since been issued by the Government of India and the Board of Directors of the East India Cotton Association have also approved of the inclusion of the above stations in the list of places, cotton from which is tenderable under the Central India standard against F. G. M. G. Oomra Hedge Contract. This is dealt with separately under item 5 (*b*) of the Agenda.

19. The Sub-Committee considered the Cotton Ginning and Pressing Factories (Amendment) Act, 1939, amending sections 9 and 14 of the Cotton Ginning and Pressing Factories Act, 1925. Amendment of section 9 of the Act was suggested by the Committee at the instance of the Director of Agriculture, Punjab, who reported that additions and alterations were being carried out in pre-Act factories which were not in accordance with the prescribed plans and specifications. The section has now been so amended as to render the factory-owner making alterations and additions to conform to the requirements which sub-section (1) of section 9 would have caused to attach to an original construction in so far as those requirements are directly relevant to the alteration or addition and in so far as the alteration or addition is separate *vis a vis* the requirements from the structure as a whole.

Amendment of section 14 was taken up at the instance of certain cotton dealers who represented that the rigid application of this section caused great hardship to the trade as it enabled purchasers to reject bales even for minor faults in marking. The section has now been so amended that the right of a purchaser to reject bales is limited to cases in which the bale does not bear the special mark prescribed for the factory under Section 4 (1) of the Act and that if bales are correctly marked it should be presumed between the buyer and the seller that they were so marked before leaving the factory.

20. In connection with the amendment of section 14 of the Cotton Ginning and Pressing Factories Act referred to in the preceding paragraph, the Committee also requested the Government of India to amend the Rules under the Act to provide :—

(1) that in Rule 7 of the Indian Cotton Ginning and Pressing Factories Rules, which requires " Every bale of cotton pressed in a cotton pressing factory to be marked with the special mark and the serial number in such manner as to render the marks clearly decipherable," the word " clearly " should be omitted, and

(2) that it should be made clear in the Indian Cotton Ginning and Pressing Factories Rules that there is no objection to the special mark and the serial number appearing both on the bale and on the hoops if so desired.

The Sub-Committee considered the draft amendment proposed by the Government of India and decided that Rule 7 should be amended to read as follows :—

Rule 7.—Every bale of cotton pressed in a cotton pressing factory shall be marked in the following manner :—

(1) The Special Mark and the Serial Number shall be in English figures and letters and shall be decipherable.

(2) The Special Mark and the Serial Number shall be punched on one or more of the hoops or stencilled on the hessian or the lashed side of the bale or may be both so punched and stencilled provided however that if stencilled such mark and number shall not be stencilled on an end hessian.

With regard to the date from which the amended rule should be brought into force, the Sub-Committee suggested that this should be done as early as possible but not later than September 1939.

21. The Sub-Committee considered the action of the Assistant Public Prosecutor, Ahmedabad, in advising the withdrawal of a case pertaining to indecipherable press marks on the ground that it was necessary to record the evidence of Mr. P. H. Rama Reddi, the then Secretary of the Committee who made the report, and also because of the cost and trouble involved, and decided that enquiry should be made in the first instance of the Assistant Public Prosecutor as to what was the correct procedure that should have been followed, where the lapse was and why the evidence of the seller, one of the arbitrators of the East India Cotton Association and the Survey Clerk was not taken in this particular case and that on receipt of this information, the Committee's Solicitors should be consulted with a view to tightening up the procedure. If then, it were found necessary, the Government of India should be requested to amend the Act so that the mere recording of the evidence of the arbitrators would constitute a definite proof against the factory-owner concerned.

22. The Sub-Committee considered the replies received from the Central Provinces and Bombay Governments to the Committee's recommendation regarding reduction in the rates of ginning and pressing charges. It was noted that the Bombay Government were exploring the possibility of reducing the rates by negotiation with factory-owners and that, if this method failed to secure the desired end, Government proposed to undertake legislation. As regards the Central Provinces and Berar, the Sub-Committee considered the recommendations contained in the report of the Pools Committee appointed by the Provincial Government to examine the question of the effect of pools on ginning and pressing charges, and a draft Bill for the further amendment of the Central Provinces Cotton Ginning and Pressing Factories Act. The Bill was approved subject to the following observations :—

(1) *Restriction on erection of new factories :—*

The Sub-Committee was unanimously of the opinion that Government should give protection to the existing factories by prohibiting the erection of new factories for a period of five years. The requirements of any area for more factories could be met by transference of some factories from areas where they are in excess.

(2) *Fixation of rates :—*

(*a*) The Sub-Committee was of the opinion that an appeal should be provided against the decision of the Rates Fixing Committees to a suitable Agency like the Commissioner or the District Judge.

The rates should be fixed and published well in advance to allow time for appeal and they should then be finally fixed two weeks before the commencement of the season, *i.e.*, before the *kapas* begins to arrive.

(*b*) The Bill should state whether rates should be agreed upon unanimously or by a majority. To avoid any possible deadlock, it would appear to be desirable to provide for the fixation of rates on the basis of majority votes by rules under Clause 2B (7) of the Bill.

(c) It was presumed that the rules to be made for the guidance of the committees would lay down that the committees would consider not only the costs of working of a particular gin or press but also the depreciation, etc., of the machinery of other gins and presses in the pool.

The Central Provinces and Berar Government have been addressed accordingly.

23. In March last, it was reported to the Director of Agriculture, Bombay Province, that despite Government notification prohibiting the watering of cotton in the Province, complaints that this malpractice was being indulged in, particularly in Broach, were being received. Similar complaints received regarding watering of cotton in the Baroda State were reported to the Commissioner of Agriculture, Baroda. The Director of Agriculture, Bombay, intimated in reply that local enquiry showed that water was being used before pressing, but a prosecution could not be instituted as evidence could not be obtained. The Commissioner of Agriculture, Baroda, replied to the effect that the question of putting a stop to watering was in hand and that this offence would shortly be rendered penal by an amendment of the Cotton Ginning and Pressing Factories Act. The Sub-Committee decided that the Rural Development Department in Bombay Province and the Commissioner of Agriculture, Baroda, should be asked to be on the lookout for such cases and to take strong action when offences were detected.

24. The Sub-Committee considered a note from the Railway Board forwarded by the President explaining the reasons for the retention of the existing concessional rates for transport of *kapas* on the North-Western Railway, which, in the opinion of the Committee, accentuated the practice of mixing of Punjab-American and *Desi* cotton. The Sub-Committee decided that the matter should be considered again after a reply had been received from the Punjab Government which had also been addressed in the matter.

25. During discussion on the subject of enhancement of duty on rayon yarn it was brought to the notice of the Sub-Committee that the Japanese Government had issued a decree making it compulsory on mills to mix a certain amount of staple fibre with cotton intended for spinning, and requiring the yarn of this mixture to be used for home consumption. It was decided that the exact position should be ascertained. The Indian Government Trade Commissioner in Japan was accordingly addressed and a copy of English translation of the relevant Ordinances issued in 1937 and 1938 by the Japanese Government, received from him, was considered by the Sub-Committee and it was decided that a copy of the English translation should be sent to the East India Cotton Association for information.

26. In reply to a query as to the present position in regard to the proposed installation of a pilot plant for the manufacture of chemical cotton, it was stated that the President had suggested that the matter might be put up again at the next meeting of the Committee to clarify the various points connected with the proposal. As the subject had been gone into fully at more than one meeting of the Committee and definite decisions had been reached, the Sub-Committee was of opinion that further consideration was not required. It was proposed that the Vice-President might explain the whole position to the President during his visit to Simla.

APPENDIX II.

SUBJECT 72.—*Summary of Report of the Standing Finance Sub-Committee.*

Secretary's Note.

Four meetings of the Sub-Committee were held since the meeting of the Committee in November 1938. Mr. Hurschler having resigned, his place on the Sub-Committee was taken by Mr. Vonesch, who succeeded him on the Committee. On return from leave on the 23rd November 1938, Mr. W. J. Jenkins resumed his place on the Sub-Committee, which was temporarily filled by Mr. Chandulal P. Parikh; Sardar Rao Bahadur Bhimbhai R. Naik replaced Rao Bahadur Sir Madhaorao Deshpande whose term of office as member of the Indian Central Cotton Committee expired on the 31st March 1939.

2. In accordance with the usual procedure, the financial aspect of the new schemes and extension of schemes, provisionally sanctioned by the full Committee at its meetings held in November 1938 and March 1939, was examined by the

Standing Finance Sub-Committee before submitting the proposals for the sanction of the Government of India. The Sub-Committee approved of the schemes on the following terms :—

A. Seed Distribution and Extension Schemes.

(i) *Sind Scheme.*—

The scheme was approved at an approximate cost of Rs. 44,662 spread over a period of two years, being the cost of pay of the staff, including Rs. 3,780 for the retention of an additional Senior Assistant.

(ii) *Jarila Scheme.*—

The scheme was approved at a total cost to the Committee of Rs. 77,297 spread over a period of three years with effect from 1st March 1939, the Bombay Government bearing expenditure on account of incidental charges amounting to Rs. 49,380 less estimated receipts, Rs. 10,800.

(iii) *Deccan Canals (Banilla) Scheme.*—

The scheme was approved at a net cost not exceeding Rs. 6,000 spread over a period of five years, with effect from 1st April 1939. It was, however, decided that the receipts accruing under the scheme should be adjusted at the close of each financial year, the final adjustment being made at the termination of the scheme.

(iv) *Surat Scheme.*—

It was noted that the proposals involved two separate schemes. The Sub-Committee approved (1) the extension of the Surat Seed Scheme concerned with the distribution of 1027 A.L.F. at a cost of Rs. 5,316 for a period of one year on account of 75 per cent of the cost of staff, the Bombay Government's share being Rs. 6,122 (Rs. 1,772 on account of 25 per cent of cost of staff plus Rs. 4,350 on account of contingencies), and (2) a new scheme for the control of Selection 1A cotton at a total estimated cost of Rs. 7,272 spread over a period of three years on account of cost of staff, the Bombay Government's share being Rs. 4,080 on account of contingencies over the same period.

(v) *Madras Co.2 Scheme.*—

The scheme was approved at an estimated cost of Rs. 63,357 (being nearly 75% of the cost of staff) spread over a period of four years and five months, the Madras Government's share being Rs. 21,844. The incidental charges were to be borne by the Co-operative Societies in the Salem District.

B. New Research Schemes.

(i) *Scheme for improvement of Cocanadas cotton in the Madras Presidency.*—

The Sub-Committee approved of the scheme at a total cost to the Committee of Rs. 35,309 spread over a period of five years, the expenditure sanctioned for the year 1939-40 being Rs. 6,728.

(ii) *Scheme for investigating the possibilities of control of the Cotton Stem Weevil of South India.*—

The scheme was approved in the light of the recommendations of the full Committee and the revised estimates amounting to Rs. 5,500 for a period of one year were sanctioned.

(iii) *Cotton Breeding Investigations for the production of long staple cottons for cultivation in Sind.*

The Sub-Committee approved of the above scheme in terms of the decisions of the Indian Central Cotton Committee at a total cost not exceeding Rs. 2,21,140 for a period of five years. In view of the importance of this scheme, it was decided that the sanction of the Government of India should be applied for at once *as a special case*, in order that the work on this scheme might be started as soon as possible. To expedite matters, it was further decided that steps should be taken in the meantime to advertise the post of Botanist.

The following were appointed to constitute the Selection Sub-Committee for the appointment of a Botanist for the above post :—

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Dr. W. Burns,
Mr. W. J. Jenkins,
Rao Saheb K. I. Thadani, and
The Secretary.

The scheme has since been sanctioned by the Government of India and steps are being taken to advertise the post of Botanist on the lines approved by the Sub-Committee.

C. Extensions of Research Schemes.

(i) *Punjab Pink and Spotted Boll-worm Clean-up Scheme.*

The Sub-Committee approved of the extension of the scheme for ten months from the 1st April 1939 at a cost of Rs. 12,000.

(ii) *Hyderabad Pink and Spotted Boll-worm Scheme.*

The extension of the scheme for a period of one year from the 1st April 1939 at a total net cost of Rs. 14,946 was approved.

D. Technological Research.

(i) Sanction was accorded to the budget of the Technological Laboratory for 1939-40 at an estimated expenditure of Rs. 1,70,623.

(ii) *Manufacture of Artificial Silk from Indian cotton.*

The purchase of a pilot plant at a cost not exceeding Rs. 50,000 as provisionally sanctioned by the Committee was approved and it was decided that the sanction of the Government of India should be applied for as soon as possible, *as a special case*, to enable expenditure being incurred during the current financial year.

(iii) *Investigations for improving the ginning of Indian cottons.*

The Sub-Committee approved of the scheme for a period of three years in the first instance involving an estimated non-recurring expenditure of Rs. 24,500 and a recurring grant of Rs. 4,600 per annum.

With regard to the post of Fitter Jobber on Rs. 50 per mensem, the Sub-Committee was not satisfied that this appointment was essential. It was, however, decided that provision for it might be retained in the budget, but that the appointment should not be made without specific sanction of the Standing Finance Sub-Committee. In the meantime, the Spinning Master should look after the machinery.

(iv) *Changes in the Speed Frames at the Technological Laboratory.*

The Sub-Committee sanctioned an expenditure not exceeding Rs. 570 for the proposed changes in the Speed Frames at the Technological Laboratory.

E. Institute of Plant Industry, Indore.

The Sub-Committee approved of a total grant of Rs. 1,11,000 (Rs. 85,000 basic grant + Rs. 26,000 supplementary grant) for the Institute during the year 1939-40.

F. Miscellaneous.

(i) A grant of Rs. 2,000 in connection with the deputation of Mr. K. Ramiah, Geneticist and Botanist, Institute of Plant Industry, Indore, to England, was approved.

(ii) *Proposal to publish annual reports of the work done at the various cotton Experiment Stations in India on the lines of the Progress Reports of Experimental Stations published by the Empire Cotton Growing Corporation.*

The Sub-Committee approved of an estimated expenditure of Rs. 1,600 during the year 1939-40 for printing the annual reports of the work done at the various cotton research stations in India.

(iii) *Bengal Comilla Cotton Scheme.*

An additional grant of Rs. 2,493 for the remaining sanctioned period of the scheme up to the 30th November 1939, and an interim extension of the scheme up to the 31st March 1940, at an estimated cost of Rs. 1,372, pending consideration of the extension proposals by the Agricultural Research Sub-Committee and full Committee, were sanctioned.

3. The Sub-Committee sanctioned a revised scale of pay and allowances, *viz.*, Rs. 200-10-240 + compensatory and hill allowances of Rs. 12-8 each for the newly appointed Cotton Research Officer on the Bengal Comilla Cotton Scheme, Bengal.

4. The purchase of a new steam boiler for the Technological Laboratory at a total cost not exceeding Rs. 1,200, was sanctioned.

5. The Sub-Committee sanctioned an additional grant of Rs. 6,518 for the pay, leave-salary and Provident Fund of the Assistant Mycologist on the Punjab Root Rot Scheme, whose services were extended by the Committee at its meeting in November last to correspond with the sanctioned period of the scheme, *viz.*, up to the 28th February 1941.

The recommendation of the Director of Agriculture to alter the Assistant Mycologist's scale of pay from Rs. 275-25-475 to Rs. 200-15-275/15-470/15-500 was approved.

6. At its November 1938 meeting the Committee decided that the procedure connected with the appointment of the Standing Finance Sub-Committee should be considered by the Sub-Committee and its recommendations placed before the full Committee. The Sub-Committee is unanimously of the opinion that no change in the existing procedure, which has worked extremely well in the past, should be made.

7. The Committee, at its meeting in August 1937, accepted the recommendation of the Agricultural Research Sub-Committee that the scheme for defibrating cotton seed in the Bombay Presidency should be discontinued. The Director of Agriculture, Bombay Presidency, was requested to find out the best possible means of disposing of the defibrating machine which was purchased in January 1936 at a cost of Rs. 3,336. The Sub-Committee considered the reply of the Agricultural Engineer to the Bombay Government (forwarded by the Director of Agriculture) stating that there was no demand for the machine and therefore no possibility of its sale and decided that the original suppliers should be consulted before disposing of the machine as scrap iron.

8. In the proposal for the extension of the Cotton Wilt Breeding Scheme, Poona, for a period of 5 years from 1st April 1937, sanctioned by the Committee in August 1936, the scale of pay of the first Agricultural Overseer (now designated as Pathological Assistant) was inadvertently shown as Rs. 150-5-200, though provision was made on the basis of a scale of Rs. 150-5-200-220-10-300. A revised scale of Rs. 150-5-200-10-300 was sanctioned for the Pathological Assistant and he was permitted on completion of one year on Rs. 200 to draw Rs. 220 per mensem.

9. The Sub-Committee considered the question of payment of travelling allowance to non-members who attended the meeting of the Committee at Lyallpur by invitation at their own request, or at the instance of Government or another member, and concurred with the view of the Director of Agriculture, Punjab, that travelling allowance should not be paid to those who attend meetings of the Committee as visitors.

10. A Balance Sheet of the Committee's accounts as at 31st March 1939 is submitted.* This shows the income and expenditure under the budget heads from the beginning of the Cotton Cess, *i.e.*, for 16 years, and has been prepared from the audited accounts. A Balance Sheet of the Provident Fund is also attached.†

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* Not printed. † Not printed.

11. A Statement of Accounts for the year 1938-39 as audited by the Committee's Auditors is attached, together with the detailed Final Accounts.* It will be seen that cotton cess receipts amounted to Rs. 6,47,922-10-8 against a revised estimate of Rs. 6,50,000. Interest on investments amounted to Rs. 97,312-14-1 against Rs. 1,02,000 estimated and miscellaneous receipts to Rs. 8,194-5-2 against an estimate of Rs. 4,000. Expenditure amounted to Rs. 9,67,690-14-11 against the total sanctioned budget of Rs. 11,59,031. The savings under the various heads with the exception of those under (1) Administration, (2) Printing and propaganda, (3) Technological, Working and Provincial, and (4) Research Studentships, will be carried forward for utilisation in future years, if required. The Closing Balance on the 31st March 1939 was Rs. 18,96,923-4-8 against Rs. 21,11,184-5-8 last year. The account of the Provident Fund for 1938-39 is also attached.*

12. The Revised Estimates of Receipts and Expenditure for the current year are enclosed* and are subject to such alterations as may be necessary consequent on the recommendations of the various Sub-Committees and the approval of the full Committee. No change has been made in the estimates for cotton cess and other receipts. The estimate for "Interest" has been reduced to Rs. 87,400 from Rs. 92,320 due to sale of Securities to meet expenditure in excess of receipts. Required modifications will be made at the cold weather meeting of the Committee when more accurate estimates are possible. Expenditure has been estimated at Rs. 12,16,492-15-6 against the sanctioned budget estimates of Rs. 10,68,457. The increase of Rs. 1,48,035-15-6 is chiefly due to re-allotments and provision for new schemes since sanctioned as shown below :—

Re-allotments from savings.—

I.	(B) (1). Improvement of Cotton Marketing ..	Rs.	6,650	0 0
II.	TECHNOLOGICAL RESEARCH :—			
	(1) *Technological Laboratory :—*			
	(*a*) Capital expenditure	,,	7,385	15 6

New Schemes.—

II.	TECHNOLOGICAL RESEARCH :—			
	(1) *Technological Laboratory :—*			
	(c) Investigation for improvement in the ginning of Indian cotton :—			
	Capital	,,	24,500	0 0
	Working	,,	4,600	0 0
	(3) Development of alternative uses for Indian cottons :—			
	Capital (Purchase of Pilot Plant) ..	,,	50,000	0 0
X.	(D). Cotton Breeding Investigation for production and cultivation of long staple cotton in Sind	,,	54,900	0 0
	Total ..	Rs.	1,48,035	15 6

13. The action taken by the Secretary to obviate, as far as possible, the necessity of going up for supplementary grants after the budget of the Committee for a particular year has been sanctioned by the Government of India was approved.

14. The Sub-Committee considered the question of the recovery of the loan from the Hubli Co-operative Cotton Sale Society, and decided that the papers on the subject should be forwarded to the Registrar of Co-operative Societies and Director of Rural Development, with a view to arriving at some arrangement for the repayment of the loan due to the Committee.

* Not printed.

15. The Sub-Committee considered an application for repayment of cotton cess paid in excess through error by Thirumurti Mills, Coimbatore District, and, after consulting the Government of India, approved of the refund of the excess payment amounting to Rs. 155-0-5.

16. The Sub-Committee considered it desirable to retain the sanction to obtain overdrafts from the Imperial Bank of India whenever necessary and unanimously passed the following resolution :—

> " That an arrangement be entered into with the Imperial Bank of India for a period of six months on the 1st July 1939 whereby the Committee may be able to obtain, when required, an overdraft up to Rs. 1,00,000 against security of Government Paper held by the Bank on behalf of the Indian Central Cotton Committee."

17. The Sub-Committee examined and approved the Statement of Accounts for 1938-39 relating to the " Fumigation of American cotton."

18. The Committee at its meeting in November 1938 decided that the services of Dr. Nazir Ahmad should be continued for a further period of five years, the terms to be negotiated by the Standing Finance Sub-Committee. The question of the terms to be offered to Dr. Nazir Ahmad was accordingly examined by the Standing Finance Sub-Committee and it was decided that he should continue on his present pay of Rs. 2,200 per mensem (plus rent free quarters) during the extended period of his employment and that the other terms should be the same as under the existing Agreement. Dr. Nazir Ahmad having accepted these terms, the decision of the Sub-Committee was forwarded to the Government of India who have now sanctioned the continuance of Dr. Nazir Ahmad as Director of the Technological Laboratory for a further period of 5 years on the terms recommended by the Sub-Committee.

19. Mr. Ajodhya Sahai having completed his period of probation as Superintendent in the Secretary's office, the Sub-Committee recommended him for confirmation. The Government of India have since accepted the recommendation of the Sub-Committee, and Mr. Ajodhya Sahai has been confirmed with effect from the 9th June 1939.

20. The Government of India having asked the Committee to nominate two of its members representing cotton growing interests in India to serve as unofficial advisers to Government during the course of negotiations between representatives of the Government of India and of the Government of Japan in regard to the continuation or modification of the existing Trade Agreement between the two countries, the Sub-Committee appointed Sardar Rao Bahadur Bhimbhai Ranchodji Naik and Mr. Sitarama Reddy as its representatives.

21. The Standing Finance Sub-Committee as the Executive Sub-Committee of the Indian Central Cotton Committee considered the question of the pay of the Secretary, Indian Central Cotton Committee and unanimously passed the following resolution :—

> " The Sub-Committee examined carefully the question of the pay and allowances of the present Secretary in all its aspects. Having regard to the importance of the post of Secretary which carries onerous and difficult responsibilities and to the fact that there has been considerable increase recently in the volume and variety of the work attached to it, the Sub-Committee considers that the remuneration fixed for the present Secretary is quite inadequate. After mature consideration, the Sub-Committee is unanimously of the opinion that his emoluments should not, in any case, be less than the total emoluments of his predecessor. The Sub-Committee accordingly recommends to the Government of India that the pay of the present Secretary should be refixed in the scale of Rs. 1,950-50-2100 (inclusive of house rent allowance) with immediate effect, and that he should be permitted to draw Rs. 2,000 from the 4th October 1939, when he will have completed two years in his present appointment."

In passing the above Resolution, the Sub-Committee expressed its appreciation of the efficient manner in which the present Secretary discharges his duties, and decided that the Resolution should be forwarded to the Government of India as soon as possible.

22. The Sub-Committee appointed the following members to the Board of Governors of the Institute of Plant Industry, Indore, as the Committee's representatives for the year ending 31st March 1940 :—

1. The President,
2. The Vice-President (Sir Chunilal V. Mehta, K.C.S.I.),
3. Sir Purshotamdas Thakurdas, C.I.E., M.B.E.,
4. Mr. S. D. Saklatvala, M.L.A.,
5. Mr. J. Vonesch,
6. Mr. Kasturbhai Lalbhai,
7. Mr. M. S. Durutti,
8. Mr. W. J. Jenkins, C.I.E.,
9. Sardar Rao Bahadur Bhimbhai R. Naik,
10. Mr. Chandulal P. Parikh, and
11. The Secretary.

It was decided that the approval of the Government of Bombay to Mr. Jenkins, appointment should be obtained and that they should be requested to permit Mr. Jenkins to attend the meetings of the Board at Indore as Committee's representative, when required.

23. The Sub-Committee approved of the following amendment of Rule 9 (4) of the Indian Cotton Cess Rules proposed by the Government of India in order to give the Committee wider powers to make new appointments :—

" (4) (*a*) The Committee shall have power to create new posts subject to the following conditions :—

(*i*) The duration of the post does not exceed five years ;

(*ii*) The maximum pay of the post does not exceed Rs. 500 ; and

(*iii*) Budget provision exists.

(*b*) The Committee may by resolution delegate the powers conferred by clause (*a*) of this sub-rule to the Standing Finance Sub-Committee, President or Secretary, provided that no delegation of the power to create a post shall be made to an authority which is not empowered to make appointment to that post."

24. The Sub-Committee sanctioned a net additional grant of Rs. 8,402 in connection with the Scheme of Economic Enquiry into the cost of production of crops in the principal sugarcane and cotton growing tracts in India.

25. As required by the Cotton Cess Rules, the Budget for 1940-41 for the pay of Government servants employed in the Committee's office is submitted for formal sanction.

26. The Sub-Committee approved of the following further fees for tests carried out at the Technological Laboratory :—

(*i*) A fee of Rs. 7-8-0 per sample for tests on penetration of size in yarn ;

(*ii*) A surcharge of 25% levied on fees for tests on foreign cotton being applied to mixtures of foreign and Indian cotton on the basis of the percentage of foreign cotton contained in the mixture ;

(*iii*) A fee of Rs. 4 per sample drawn from bulk from the Cotton Exchange, Sewri, or the area within that radius, and a fee of Rs. 6 for the samples drawn from bulk from the Fort or the area within that radius and payment of such travelling allowance to the staff deputed for this work as is admissible under the rules applicable to them.

27. The Sub-Committee considered a request from Prof. P. C. Mahalanobis for contribution from the Committee towards the expenses to be incurred by the Indian Statistical Institute, Calcutta, in connection with the visit to India of Prof. Harold Hotelling of the Columbia University, but could not see its way to accede to it.

28. The Sub-Committee considered the reply received from Messrs. Duncan Stratton & Co., Bombay, regarding the disposal of the DeSegundo Defibrating Machine and decided that the machine should be sold as scrap iron.

APPENDIX III.

DRAFT AGRICULTURAL PRODUCE (GRADING AND MARKING) (COTTON) RULES.

1. *Short title and application.*

(1) These may be called the Agricultural Produce (Grading and Marking) Cotton) Rules, 1939.

(2) They shall apply to cotton of specified botanical varieties grown in India.

2. *Grade designations.*

Grade designations to indicate the characteristics and quality of cotton of specified varieties are set out in the first column of the annexed Schedule——and shall only be applied to cotton in full pressed bales.

3. *Definition of quality.*

(1) The special characteristics of quality indicated by the grade designations of each specified variety of cotton are set out in the second column of the relevant Schedule.

(2) The general characteristics of quality of each specified variety of cotton are set out in the third column of the relevant Schedule.

4. *Grade designation marks.*

(1) The grade designation mark to be applied to each bale shall consist of a label bearing on a white ground the design set out in Schedule——specifying the grade designation.

(2) The design and grade designation shall be of the following colour :—

Grade designation.	*Colour of design and lettering of label.*
AGMARK CERTIFIED PEDIGREED ..	Red.
AGMARK CERTIFIED	Black.

5. *Method of marking.*

(1) The grade designation mark label shall be placed against one or other of the flat sides of a bale. It shall be fixed to the hessian cloth wrapper and shall be held securely in position by at least 3 hoops.

(2) The grade designation mark label shall clearly show the following particulars :—

(*a*) Grade designation.

(*b*) Taluka in which grown.

(*c*) Pressing factory.

(*d*) Date of pressing.

(3) The affixing of the grade designation mark label on an end hessian or an unlashed side of a bale shall not be deemed to fulfil the requirements of this rule.

6. *Method of packing.*

(1) The cotton shall be baled as customary in the trade.

(2) The net weight of an unopened full pressed bale shall conform as nearly as possible to 392 lb. but a variation between minimum and maximum limits of 340 and 450 lb. may be permissible.

SCHEDULE———

Grade designations and definitions of quality of the variety of cotton known botanically as 1027 *A.L.F. belonging to the Surat type of cotton tenderable against the Broach contract of the East India Cotton Association and grown, ginned and pressed in the talukas of Ankleshwar, Hansot, Olpad and Mandvi in the district of Broach and in the talukas of Chorasi, Bardoli, Valed, Jalalpur and Chikhli in the district of Surat, in the talukas of Mangrol, Kamrej, Vyara, Palsana, Mahuwa and Navsari in Baroda and in Rajpipla.*

Grade Designation.	Definition of Quality.	
	Special Characteristics.	General Characteristics.
AGMARK CERTIFIED PEDIGREED 1027 A. L. F.	(*a*) Shall be the product derived from the seed (Kapas) of 1027 A.L.F., grown on a Government farm or by a registered seed grower licensed by the appropriate Government Department, which has itself been derived from selfed seed, and shall have been rogued in the field and duly certified by the appropriate Government Departments as being at least 98 per cent pure, and	(*a*) Shall consist of lint (in half or full pressed bales) obtained by ginning (in roller gins) mature Kapas.
	(*b*) shall have been ginned and pressed under the direct supervision of the appropriate Government Department.	(*b*) shall be dry and free from any trace of added moisture.
AGMARK CERTIFIED 1027 A. L. F.	(*a*) Shall be derived from Kapas grown from certified 1027 A.L.F. seed obtained from a Government seed depot or from a seed agency (of which the seed has been certified by the appropriate Government Department as being of the standard of purity of the Government seed depot) the crop of which shall have been examined in the field and have secured a certificate of adequate field purity from the appropriate Government Department, and	(*c*) shall be well ginned, clean and reasonably free from leaf, stain or other imperfections. (*d*) shall be of good colour (white or creamy), lustrous and silky.
	(*b*) shall have been ginned and pressed respectively in the condition as delivered by the grower (whose crop has been certified) after examination and check at a ginning and pressing factory holding a licence for 1027 A.L.F. issued by the appropriate Government Department.	(*e*) The Bye-laws of the East India Cotton Association in regard to "False or Fraudulent Packing" shall apply in every case.

Summary Proceedings

OF THE

Forty-First Meeting

OF THE

Indian Central Cotton Committee

HELD ON THE

19th and 20th January 1940.

[Price Re. 1.]

INDIAN CENTRAL COTTON COMMITTEE.

41ST MEETING—19TH AND 20TH JANUARY 1940.

(Held at Forest College Buildings, Coimbatore.)

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Present:

Mr. P. M. Kharegat, C.I.E., I.C.S., (*President*),
Sir Chunilal V. Mehta, K.C.S.I., (*Vice-President*),
Sir Purshotamdas Thakurdas, C.I.E., M.B.E.,
Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,
Dr. W. Burns, C.I.E.,
Mr. Kasturbhai Lalbhai,
Sir William Roberts, C.I.E., M.L.A.,
Rao Bahadur Sir Madhaorao Deshpande, K.B.E.,
Rai Bahadur S. V. Kanungo,
The Hon'ble Mr. V. Ramdas Pantulu,
Mr. H. R. Stewart, C.I.E., I.A.S.,
Mr. P. H. Rama Reddi, I.A.S.,
Mr. J. C. McDougall, I.A.S.,
Mr. B. S. Patel, I.A.S.,
Sardar Rao Bahadur Bhimbhai R. Naik,
Rao Bahadur V. Ramanatha Ayyar,
Mr. T. R. Low, I.A.S.,
Mr. A. P. Darlow,
Mr. Roger Thomas,
Seth Isserdas Varindmal, M.L.A.,
Mr. Chellaram Shewaram,
Rao Saheb K. I. Thadani,
Sardar D. K. Jadhav,
Rao Saheb P. V. Deshmukh,
Mr. Nizam-ud Din Hyder,
Mr. H. Sitarama Reddy Garu, M.L.A.,
Sardar Bahadur Gurbachan Singh, M.L.A.,
Mr. H. B. Rajdev,
Mr. G. P. Chakravarty,
Mr. V. C. Palaniswami Gounder, M.L.A.,
Mr. M. B. Patel, M.L.A.,
Mr. Y. R. Joshi,
Rai Bahadur Lakshmi Raj Singh, M.L.C.,
Ch. Shiva Mangal Singh, M.L.A.,
Mr. Y. G. Deshpande,
Dr. B. L. Sethi,
The Secretary (Mr. D. N. Mahta).

By invitation.

Mr. D. N. Strathie, C.I.E., I.C.S., Adviser to His Excellency the Governor of Madras,

Dewan Bahadur C. S. Ratnasabhapathy Mudaliar, President, Indian Chamber of Commerce, Coimbatore,

Mr. D. D. Warren, I.C.S., Collector, Coimbatore,

Mr. R. C. Broadfoot, I.A.S.,

Rao Bahadur T. S. Venkataraman, C.I.E., Imperial Sugarcane Expert,

Dr. Nazir Ahmad, O.B.E., Director, Technological Laboratory, Matunga, Bombay,

Mr. K. Ramiah, M.B.E., Geneticist, Indore,

Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,

Prof. R. H. Dastur, Plant Physiologist, Lyallpur,

Mr. Mazhar Husain, Director of Statistics, Hyderabad State,

Mr. Mohammad Afzal, Cotton Research Botanist, Lyallpur,

Mr. S. S. Pande, Economic Botanist for Cotton, Nagpur,

Mr. V. C. Vellingiri Gounder,

Mr. T. A. Ramalingam Chettiar,

Mr. T. S. Avanashilingam Chettiar,

Mr. A. J. B. Campbell, Chairman, Coimbatore Chamber of Commerce,

Mr. C. M. Kothari,

Rao Bahadur G. N. Rengaswamy Ayyengar, Millets Specialist and Geneticist, Madras Province,

Mr. P. V. Ramiah, Agricultural Chemist, Madras,

Mr. M. C. Cherian, Entomologist, Madras,

Mr. K. M. Thomas, Mycologist, Madras,

Mr. C. M. John, Oil Seeds Specialist, Madras,

Mr. C. R. Srinivasa Ayyengar, Paddy Specialist, Madras,

Mr. K. Unnikrishna Menon, Deputy Director of Agriculture, Madras Province,

Mr. V. K. Palaniswamy Gounder, President, District Board, Coimbatore,

Mr. B. M. Lakshmipathy, Research Engineer, Madras,

Mr. D. M. Sunder Rao, Secretary, Millowners' Association, Coimbatore,

Mr. N. L. Dutt, Second Sugarcane Expert,

Mr. C. J. Bocarro (Assistant Secretary).

Letters were received from the following members regretting thei inability to attend the meeting :—

Dr. T. E. Gregory,

Lala Shri Ram,

Mr. S. D. Saklatvala, M.L.A.,

Mr. Vishnu Sahay, I.C.S.,
Mr. R. G. Allan,
Mr. M. S. Durutti,
Mr. J. Vonesch,
Mr. G. A. Bambridge,
Mr. T. G. Rama Iyer,
Captain S. R. Pocock, M.L.A.,
Mr. Chandulal P. Parikh,
Mr. Suganchand Tapadia.

President's Speech.

GENTLEMEN,

I wish to extend on your behalf a most hearty welcome to Mr. Strathie, Adviser to His Excellency the Governor of Madras, who, in spite of the many pressing calls on his time, has consented to be present here to-day and give us a brief address. He has been Registrar of Co-operative Societies and is familiar with the problems of cultivators, and I think I can assure him on your behalf that the views he will express and the suggestions he will make will receive our earnest consideration.

This is the 41st meeting, but is the fourth to be held outside Bombay. A meeting like this provides an excellent opportunity to the members to examine the work that is being done under the schemes financed by the Committee in different places in the country. It also gives a good opportunity to the research workers attending these meetings to exchange views and discuss problems with other workers engaged on research similar or allied to their own. I am sure you will wish me to thank the Madras Government on your behalf for inviting us to meet at Coimbatore on this occasion in order to see the work in progress at this important research centre, and also to convey our thanks to the Director of Agriculture, the Principal of the College, and officers and staff of the Agricultural Department for the excellent arrangements which they have made both for our meetings and for our personal comforts. It could not have been a light task, and we greatly appreciate all that has been done in this connection for us.

I understand that it is customary for the President, on such occasions, to make a speech dealing with the problems before the Committee. But it seems to me that no such speech is called for on the present occasion, as we will shortly have the opportunity of listening to an address by Mr. Strathie. Moreover, we have no less than 67 items on our Agenda, and it is, therefore, necessary to be brief. There is, however, one point to which I feel I must make a reference and that is the changes that have occurred in the personnel of the Committee since we last met. Mr. Patel takes the place of Mr. Jenkins who has proceeded on leave out of India, Messrs. McDougall, Darlow, Tapadia and Deshpande replace Messrs. Hill, Priestley, Kolhe and Kane. Rao Bahadur Sir Madhaorao Deshpande has been re-appointed as a representative of the cotton growers of the Central Provinces. To all of them we extend a hearty welcome, and we also express to those who have retired from the Committee our appreciation of their services. I do not wish to detain you any further, and will request Mr. Strathie kindly to deliver his address.

Mr. D. N. Strathie's Speech.

PRESIDENT AND GENTLEMEN,

I must first convey to you the regret of His Excellency the Governor that he has been unable to be here to welcome you to-day. It would have given him great pleasure to meet such a number of distinguished workers in the cause of the most important commercial crop in the country, but, with all the additional work now thrown upon him, he found it impossible to get away from Madras; but I can assure you that the Government and the people of this Presidency do extend to you a very warm welcome and are very grateful to you for accepting our invitation to hold this—your forty-first meeting—here in Madras. As a rule your meetings are naturally held at your headquarters in Bombay, the chief centre of the great cotton industry, but you have honoured other centres, Indore, Karachi, and Lyallpur, and we in Madras felt that we too should have the honour of being your hosts.

We occupy about the fifth place in all India in area and yield of cotton, and we believe that much good work is being done by our Agricultural Department here. We wanted the members of your Committee to see that work and hope that, after seeing conditions here, you would be able to appreciate our problems better, and help us to evolve even more useful and profitable lines of work for the future. We in Madras have no cause to complain of any lack of sympathy or help in the past, for I find that of the twelve schemes sent up in recent years by the Madras Government, all except one have been accepted by your Committee. We are grateful, but gratitude does not exclude an element of hope of favours to come and we trust that, after this visit and the knowledge it will give you of our problems, we shall benefit even more than we have in the past. We have four schemes now in progress with the help of your funds and it is hoped that they will all yield useful results.

To an officer like myself, who has not been in close touch with the work of your Committee, it is surprising to see how remarkably successful your organisation has been. In these democratic days, it might be regarded as a peculiar organisation, a relic of the bad old days. You have an annual income of about Rs. 7 lakhs from the Cotton Cess Act, collected by the district revenue officers. I had a hand in it when I was Collector and I do not remember having any great difficulty in the collection, far less than we had over income-tax and less than we are going to have over the Tobacco Tax and the Sales Tax. You receive over a lakh of rupees every year from your investments and you have a closing balance of about Rs. 21 lakhs. Now the body that administers these large sums and carries out so many beneficial works is chosen not by adult franchise or even a property franchise. Some of the members are officials nominated by the Governor-General in Council, others are non-officials similarly nominated by the Governor-General, while Chambers of Commerce and associations supply the balance, representative of growers, traders, spinners and manufacturers. Even Indian States are represented. Yet, to the best of my belief, there have been no election disputes, nor has there been any general complaint against your Committee. You have carried out a vast amount of useful work. You have been responsible for the initiation of much beneficial legislation. You have carried on negotiations with similar organisations in foreign countries and have financed and controlled

research and statistical institutes—I believe to the satisfaction of all concerned. It occurs to me that your organisation might well form a model for wider spheres and that a solution of our present difficulties might be found by copying it.

Leaving these general considerations and returning to our muttons, or rather to our cotton, I would refer in closing to some of the immediate problems before us. The Commercial Crops Markets Act has been in force in respect of cotton in the Tiruppur area of this district since 1935 and has recently been extended to the municipal areas of Nandyal in Kurnool and Adoni in Bellary. The objects of the Act, as you all know, are to safeguard the interests of the grower and to enable him to get as good a price for his produce as possible. Proper weights are guaranteed, unnecessary and irregular deductions and allowances are prevented, market news is supplied and the grower has been enabled to market his crop without too great interference from the middlemen. There have, as is inevitable in working an Act of this complexity, been some complaints that the Act has not achieved its objects, but those entrusted with the responsibilities for administering the Act are very hopeful about the benefits the Act is capable of conferring and, with the gradual extension of the facilities, the grower is in the long run bound to benefit. The Government have now before them a proposal to extend the Act to the entire district of Coimbatore. Another piece of legislation intended to safeguard the proper cultivation of cotton is the Madras Agricultural Pests and Diseases Act. An amendment to the Cotton Ginning and Pressing Factories Act has been proposed with a view to preventing certain malpractices in the trade. We hope that it will be taken up soon.

Now I see that you have a lengthy and technical agenda before you, dealing with such subjects as 'White Fuzzy American Cotton Seed,' 'The Madras Pempheres and Physiological Scheme,' 'Final Report of the Parasitologist,' 'Final Report on Hyderabad Pink and Spotted Bollworm Scheme' and 'Cotton Genetics Research Scheme.' I must not stand between you and this delectable bill of fare. I again thank you for coming here and on behalf of the people of Madras wish you every success in your deliberations.

SUBJECT 2.—*Confirmation of Minutes.*

The Minutes of the previous meeting held on the 3rd and 4th August 1939 were confirmed.

SUBJECT 3.—*Appointment of Vice-President and Sub-Committees.*

Sir Chunilal V. Mehta was unanimously re-elected Vice-President of the Indian Central Cotton Committee for the year 1940-41.

The following members were appointed to form the Standing Finance Sub-Committee for the financial year 1940-41 :—

The Vice-President (*Chairman*),
The President (*ex-officio*),
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,

Mr. J. Vonesch,
Mr. M. S. Durutti,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. W. J. Jenkins.

The following members were appointed to form the Local Sub-Committee :—

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,
Mr. J. Vonesch,
Mr. W. J. Jenkins,
Mr. M. S. Durutti,
Rao Bahadur Sir Madhaorao Deshpande,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. A. P. Darlow,
Mr. Chandulal P. Parikh.

The following were appointed to constitute the Agricultural Research Sub-Committee :—

I. The President (*ex-officio*),
II. The Vice-President (*ex-officio*),
III. The Co-operative Banking Representative (*ex-officio*),
IV. Cotton Growers' Representatives :—
Sir William Roberts,
Mr. Roger Thomas,
Sardar Rao Bahadur Bhimbhai R. Naik,
Rao Bahadur Sir Madhaorao Deshpande,
V. Cotton Trade Representatives :—
Sir Purshotamdas Thakurdas,
Mr. Kasturbhai Lalbhai,
Mr. Chandulal P. Parikh,
Mr. J. Vonesch,
Mr. M. S. Durutti,
Mr. Chellaram Shewaram,
VI. Agricultural Officers :—
The Agricultural Commissioner with the Government of India (*ex-officio*),
The Director, Institute of Plant Industry, Indore, (*ex-officio*),
Mr. H. R. Stewart,
Mr. W. J. Jenkins,
Mr. P. H. Rama Reddi,

Mr. R. G. Allan,
Mr. Vishnu Sahay,
Mr. J. C. McDougall,
Rao Saheb K. I. Thadani,
Mr. Nizam-ud-Din Hyder,
Mr. T. G. Rama Iyer,
Sardar D. K. Jadhav,

VII. Additional Members :—

Dewan Bahadur Sir T. Vijayaraghavacharya,
Rao Bahadur V. Ramanatha Ayyar,
Dr. B. L. Sethi,
Rai Saheb Kalidas Sawhney,
Mr. K. Ramiah,
Mr. Mohammad Afzal,
Prof. R. H. Dastur,

VIII. The Secretary.

It was decided that Dr. R. Sankaran and Mr. S. S. Pande should be co-opted on the Sub-Committee.

The following were appointed to form the Technological Research Sub-Committee :—

The President (*ex-officio*),
The Vice-President (*ex-officio*),
The Agricultural Commissioner with the Government of India (*ex-officio*),
Sir Purshotamdas Thakurdas,
Mr. Kasturbhai Lalbhai,
Dewan Bahadur Sir T. Vijayaraghavacharya,
Sir William Roberts,
Lala Shri Ram,
Mr. S. D. Saklatvala,
Mr. W. J. Jenkins,
Mr. J. Vonesch,
Mr. M. S. Durutti,
Mr. H. R. Stewart,
Mr. P. H. Rama Reddi,
Mr. Chandulal P. Parikh,
Rao Saheb P. V. Deshmukh,
Captain S. R. Pocock,
Mr. E. F. G. Gilmore,
Dr. Nazir Ahmad,
Dr. B. L. Sethi,
Rao Bahadur V. Ramanatha Ayyar,
Rai Saheb Kalidas Sawhney,
Mr. Y. G. Deshpande.
Cotton Botanist in charge—Scheme for production of long staple cotton in Sind.

Two representatives each of the Bombay Millowners' Association, the Ahmedabad Millowners' Association, the East India Cotton Association and the Karachi Cotton Association Ltd.

The following were appointed to form the Cotton Forecast Improvement Sub-Committee —

The President (*Chairman*),
The Vice-President,
The Agricultural Commissioner with the Government of India, (*ex-officio*),
The Director General of Commercial Intelligence and Statistics,
Dr. T. E. Gregory,
The Director of Agriculture, Bombay Province,
Do. Madras,
Do. Punjab,
Do. United Provinces,
Do. Central Provinces and Berar,
Do. Sind,
Do. H. E. H. the Nizam's Government,
The Commissioner of Agriculture, Baroda,
The Director of Statistics, H. E. H. the Nizam's Government,
The Director of Land Records, Central Provinces and Berar,
The Deputy Director of Statistics,
The Statistical Officer to the Director of Industries, Madras,
Mr. J. Vonesch,
Mr. M. S. Durutti.

The following were appointed to constitute the Wider Markets Sub-Committee :—

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Dr. T. E. Gregory,
Dewan Bahadur Sir T. Vijayaraghavacharya,
Dr. W. Burns,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,
Sir William Roberts,
Mr. H. R. Stewart,
Mr. W. J. Jenkins,
Mr. P. H. Rama Reddi,
Mr. J. C. McDougall,
Mr. Vishnu Sahay,
Mr. V. Ramdas Pantulu,
Mr. J. Vonesch,
Rao Saheb K. I. Thadani,

Mr. Nizam-ud Din Hyder,
Mr. M. S. Durutti,
Mr. Chandulal P. Parikh,
Sardar Rao Bahadur Bhimbhai R. Naik,
Rao Saheb P. V. Deshmukh,
Seth Isserdas Varindmal,
Dr. Nazir Ahmad,
Mr. R. G. Saraiya,
Rai Saheb Kalidas Sawhney,
Mr. Y. G. Deshpande.

Approval was accorded to the nominations made by the interests concerned on the Standards Sub-Committee. The constitution of the Sub-Committee is as follows :—

Mr. C. P. Bramble,	Representative of the Imperial Council of Agricultural Research.
Mr. Haridas Madhavdas, Mr. Varjivandas Motilal,	Representatives of the East India Cotton Association, Ltd.
Mr. Hiranand P. Bhatia, Mr. Chellaram Shewaram,	Representatives of the Karachi Cotton Association, Ltd.
Rao Bahadur Sir Madhaorao Deshpande, Mr. M. P. Kolhe,	Representatives of Cotton Growers of Berar tract.
Mr. Y. R. Joshi, Mr. Ardeshir Jamshedji Kapadia,	Representatives of Cotton Growers of Broach tract.
Mr. Mulchand Vardhman Shah, Mr. Bansilal Jivanlal Desai,	Representatives of Cotton Growers of Dholleras tract.
Mr. Hiralal H. Pandya, Mr. Vadilal Chunilal Doshi,	Representatives of Cotton Growers of Mathia tract.
Mr. S. B. Betgeri, Mr. F. B. Lokshmeshwar.	Representatives of Cotton Growers of Kumpta tract.

A suggestion was made that growers' representatives for the Sind and Punjab cotton tracts should be appointed on the Standards Sub-Committee. Against this, it was pointed out that as Karachi had an organised cotton association, it had to be presumed that the growers were consulted before the standards for Sind and Punjab cottons were made. In Bombay, cotton growers' representatives were on the East India Cotton Association and it was only for those cottons grown in tracts which had no recognised associations that growers' representatives were appointed to serve on the Standards Sub-Committee.

Reference was also made to the fact that trading was not being done on the basis of the Universal Standards and it was suggested that the associations concerned should be compelled to adopt the Universal Standards for trading purposes. Unlesss this were done, the purpose for which these standards were prepared would be defeated. In this connection, it was pointed out that the Karachi standards were nearly equal to the Universal Standards. It was decided that this question should be further examined.

The following members were appointed to constitute the Cotton Ginning and Pressing Factories Sub-Committee, with power to co-opt :—

(*a*) **The Vice-President** (*ex-officio*).

(*b*) **Five trade members resident in Bombay :—**

Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,
Mr. M. S. Durutti,
Mr. J. Vonesch.

(*c*) **One trade member from each of the following provinces :—**

Madras .. Mr. G. A. Bambridge,
Punjab .. Sir William Roberts,
United Provinces..Captain S. R. Pocock,
Central Provinces and Berar..Rao Saheb P. V. Deshmukh.

(*d*) **The Co-operative Banking Representative** (*ex-officio*).

(*e*) **One representative of the Agricultural Department—Mr. W. J. Jenkins.**

(*f*) **Additional member—Mr. Chellaram Shewaram.**

It was agreed that this Sub-Committee should meet more frequently than had been the case in the past and that all important matters connected with the cotton ginning and pressing factories should be referred to it.

SUBJECT 4.—*Retirement of members by rotation.*

The Secretary's note was recorded.

SUBJECT 5.—**Report of the Standing Finance Sub-Committee.*

Stress was laid on the importance of translating into practice the results of research and it was suggested that this could best be done by the distribution of pure seed, insistence that the Departments of Agriculture should look after the purity of the crop and the institution of model projects for demonstration purposes.

A plea was made for greater assistance being given to co-operative societies in the matter of seed improvement and the marketing of cotton, more particularly in the Madras Presidency.

The following resolution was passed :—

RESOLUTION.—" That the Report of the Standing Finance Sub-Committee be adopted and that the budget proposals for 1940-41 be approved and the Sub-Committee authorised to include in the budget necessary provision for the schemes passed at this meeting of the Committee before submitting it to the Government of India."

SUBJECT 6.—*Report† of the Local Sub-Committee.*

In connection with the decision of the Local Sub-Committee that 50,000 bales should be the minimum quantity of production which would

* Appendix I (page 45). † Appendix II (page 51).

entitle a new cotton to be included in the list of Standard Indian Cottons, it was pointed out that this limit was unsuitable for the rain-fed cotton tracts where average production of cotton was low, and it was suggested that the limit should be fixed on the basis of area rather than that on yield. Against this view, it was urged that the lowering of the limit would not be in the best interests of the growers as, if only a few thousand bales of a new variety were standardised, unscrupulous dealers would attempt to pass off inferior cotton as the new variety with the result that the reputation of an improved variety would be spoilt in the early stages. After further discussion it was decided that the limit of 50,000 bales might be relaxed by the Local Sub-Committee for special varieties in the light of the facts which might be brought to its notice by the Director of Agriculture concerned.

Enquiry was made as to the reason for the exclusion of *289F/K25* from the list of trade varieties of Indian cottons tested at the Technological Laboratory and it was stated that this variety was grown in considerable quantities. It was pointed out that the reason for the exclusion was the fact that cotton under this nomenclature was not known in the Bombay market, and it was suggested that when large quantities of improved types were available, the correct names under which they are marketed should be brought to the notice of cotton and millowners' associations to enable trading being done in them under their proper names.

The Report of the Local Sub-Committee was approved.

SUBJECT 7.—*White fuzzy American cotton seed—Investigation into the causes of prejudice against—Reference from March 1939 meeting.*

Reference was made to the disparity in prices between the clean and the fuzzy seed as a result of which growers lost heavily; this, it was thought, was due mainly to prejudice, since chemical tests had indicated that there was no difference in feeding value between the two varieties. It was accordingly suggested that propaganda to popularise the fuzzy seed should be undertaken in consuming centres. A suggestion was also made that feeding trials should be undertaken to see whether they confirmed the chemical tests or supported the reasons advanced by the cultivators against fuzzy seed, and further to find out whether there were any real reasons for the apparent dislike of cattle for this type of seed. It was explained that in Sind the disparity in prices between the two types of seed was diminishing due to increase in the number of oil mills which readily bought fuzzy seed. So far as Sind was concerned, the suggestion that fuzzy seed should be sold very cheaply did not find favour as it was reported that in Sind *289F* seed was now used as cattle food.

It was finally decided that those provinces which felt the need of propaganda to popularise the use of American seed, might, if necessary, put up schemes for the consideration of the Committee.

SUBJECT 8.—*Proposed compilation by the Empire Cotton Growing Corporation of a handbook dealing with the pests and diseases of cotton in the Empire.*

The recommendation of the Agricultural Research Sub-Committee that the names of Dr. B. N. Uppal and Mr. H. D. Nangpal should be

proposed as the writers, respectively, of the portions of the proposed monograph on fungus diseases and insect pests of cotton in India was approved.

SUBJECT 9.—*Cotton Ginning and Pressing Factories Act—Baroda State Amendment Act,* 1939.

It was agreed that the attention of the Baroda Government should be drawn to the desirability of amending further the Baroda Cotton Ginning and Pressing Factories Act to bring it into line with the Bombay Amendment Act of 1938 under which the watering of cotton and the mixing of cotton waste with cotton are also prohibited.

SUBJECT 10.—*Second Conference of Scientific Research Workers on Cotton in India—Fixation of date of—.*

A suggestion was made that instead of holding Conferences of research workers periodically, cotton workers should be permitted to visit stations where cotton work is in progress so that they could discuss their problems with other workers on the spot. It was agreed that as such conferences served a useful purpose they should be continued but should be held at different cotton breeding stations in rotation. It was decided that the next Conference should be held at Surat in the cold weather of 1941.

SUBJECT 11.—*Present position* of Indian Cotton—Action taken by Provincial Governments and States on recommendations made by the Committee in March* 1939.

The action taken by Provincial Governments on the recommendations of the Special Sub-Committee which examined this subject in March 1939 was considered.

In connection with Resolution 4, discussion centred round the steps taken to reduce mixing and other malpractices. It was stated that in Madras Province, cotton waste was being deliberately mixed with improved cotton at Tiruppur and that, in practically every ginning and pressing factory in the Coimbatore District, mixing of cotton was resorted to. In this connection, it was pointed out that a Bill to amend the Cotton Ginning and Pressing Factories Act to prevent malpractices was, at present, under the consideration of the Madras Government.

A plea was made for the repeal of the Cotton Ginning and Pressing Factories (Amendment) Act on the ground, amongst others, that Central Provinces cotton was not mixed. The view, however, was expressed that Central Provinces cottons did not always come into the market in a pure state and that so far from repealing the Act, the indications were rather that its provisions in regard to mixing should be brought into force and strictly applied.

In reply to an enquiry regarding the position in Bombay, it was stated that the provisions of the Act in respect of the mixing of cotton had not been applied as the problem bristled with difficulties owing to the absence of any ready means for detecting mixtures. To overcome this, a suggestion was made that seed distribution schemes should be concentrated in certain areas. It was pointed out, however, that in Egypt,

*Appendix III (page 55).

although separate varieties of cotton were grown in the same district, no mixing took place owing to the existence of legislation under which mixing was a penal offence, and it was suggested that similar action should be taken in India.

It was agreed that the mixing of cotton required to be stopped but it was felt that before Provincial Governments could be advised to apply the provisions of the Act in this respect, some indication should be given to them as regards the steps to be taken to enforce it. In the meanwhile, the mixing of non-cotton articles with cotton should be prohibited. This was already the case in the Bombay Province. In Baroda, it was pointed out, the mixing of lower quality cottons with *1027 A. L. F.* had been got over by the use of "AGMARK". This system was reported to be working well and it was suggested that the Central Provinces Government should consider the feasibility of protecting "*Verum*" in this manner.

After further discussion, it was finally decided that in so far as the Madras Province was concerned, the Director of Agriculture should examine the question of the Cotton Ginning and Pressing Factories (Amendment) Act being brought into force in this province as early as possible.

The following Resolution was unanimously passed :—

RESOLUTION.—"The Indian Central Cotton Committee observes that in spite of the availability of improved strains of cotton suited for most of the cotton growing tracts in the Madras Presidency, the area yet to be covered by these strains remains very large. This seems to be due to want of adequate funds and suitable organisation to undertake the work of seed distribution. The Committee, therefore, recommends to the Madras Government that steps be taken to provide adequate funds and to make all facilities available to the Agricultural Department and non-official agencies like Rural Co-operative Societies for the production and distribution of large quantities of improved pure strains in order that the whole cotton growing area may be covered by them as quickly as possible."

SUBJECT 12.—*Agricultural Produce (Grading and Marking) Act*, 1937—*Cotton Grading and Marking Rules*, 1939.

The Cotton Grading and Marking Rules, 1939, issued under the Agricultural Produce (Grading and Marking) Act, 1937, were recorded.

SUBJECT 13.—*Progress Report on Madras Nadam Cotton Breeding Scheme.*

This scheme was sanctioned in February 1933 for a period of five years and was extended in July 1938 for three years. It has, for its object, the production of suitable annual cottons to replace *Nadam*, a perennial variety, the continual occupation of which in the field makes it impossible to control effectively certain insect pests like Stem Weevil and Bollworm. The object is sought to be achieved by crossing *Nadam* with annual types or by introducing suitable early growing varieties.

The Progress Report and Programme of Work were considered and approved.

SUBJECT 14.—*Progress Report on scheme for improvement of Mungari cotton in Madras Province.*

This scheme, which was sanctioned in March 1937 for a period of five years, commenced work in May 1937. Its object is to evolve strains

suitable for red soils, combining the quality of the *Westerns* with the yield of *Mungari* to replace the inferior *Mungari*, the existence of which affords opportunities for undesirable mixing with the result that the better cottons of the tract fail to get their legitimate prices.

The Progress Report and Programme of Work were approved.

SUBJECT 15.—*Madras Pempheres and Physiological Scheme.*

(a) *Progress Report for* 1938-39.

This scheme was sanctioned in 1925 for a period of five years, but, owing to difficulty in securing a competent Plant Physiologist, it had to be kept in abeyance till 1930 when it was decided to send for training to England two officers selected from the Madras Agricultural Department, with a view to their eventually occupying the posts of Physiological Botanist and Bio-Chemist under the scheme, and to start, in the meanwhile, preliminary investigations under the direction of the Cotton Specialist, Coimbatore. The scheme commenced formally in 1931 when the two officers were sent for training. On their return in 1934, a Special Sub-Committee appointed to report on the scheme put up proposals for the entire revision of the scheme, which, with a few alterations, were accepted by the Committee in February 1935.

The scheme as originally sanctioned consisted of two investigations, one for the control of cotton stem weevil by botanical, entomological and bio-chemical methods, and the other for the evolution of a strain in *Karunganni* cotton resistant to the harmful effects of February rains. The Committee, at its meeting in July 1938, decided to close down the entomological and physiological investigations on the 31st October 1938 and to extend the botanical research up to 31st October 1941 and the bio-chemical research up to 31st August 1939.

The Committee considered and approved the progress report on the scheme. It was also decided that the scheme should, in future, be termed 'Madras Pempheres Scheme'.

(b) *Final Report of the Parasitologist.*

As decided by the Committee in July 1938, the entomological section of the scheme closed down on the 31st October 1938. The Agricultural Research Sub-Committee considered the Final Report of the Parasitologist and made the following recommendation which was approved by the Committee :—

> "The Sub-Committee recommended that Mr. Krishna Iyer should write up the three years' work of the scheme within the next six months in a paper of between 30 to 50 pages of the Indian Journal of Agricultural Science to be published in that journal."

(c) *Final Report of the Physiological Botanist.*

The physiological part of the investigation closed down on the 31st October 1938. As a result of the investigation, a new strain *K1* has been evolved which is reported to be well suited to withstand the untimely rains.

The Agricultural Research Sub-Committee which considered the final report recommended that the work done should be written up by Mr. T. R. Narayana Iyer.

SUBJECT 16.—*Punjab Physiological (Cotton Failure Research) Scheme:—(a) Progress Report for 1939-40.*

This scheme, which was sanctioned in August 1933 for a period of five years, is concerned with the investigation of the causes leading to the partial failure of the cotton crop in the Punjab. As the scheme was due to terminate on the 14th March 1940, the Committee in August 1939 sanctioned a further extension of three years to confirm the results obtained.

The Agricultural Research Sub-Committee, which examined the progress report, made the following observations which were approved by the Committee :—

"*Mr. Roger Thomas* questioned Prof. Dastur's statement that '*Tirak*' is now known to be caused by soil conditions. He put forward the tentative theory that it may be a question of nitrogen complex, and not a matter of soils. He cited his experience this year of good land normally giving about 1½ bales per acre which normally had no '*Tirak*' and which this year showed a very severe attack of '*Tirak*' due to the partial failure of the irrigation system. Only one or in some places two irrigations could be given to the crop in the complete absence of rains. '*Tirak*' in this case appeared to him to be not a matter of soil conditions but of the inability of the plant either to absorb nitrogen from the soil or of transferring nitrogen from the leaf to the boll. He referred to his previous experience that White Fly was a potential cause of the periodic failure of the Punjab American cotton crop and said that he was now inclined to the view that there were 2 kinds of crop failures in the Punjab :—

(*i*) '*Tirak*' *crop failure*, the chief symptom of which was the production of a large percentage of immature bolls and

(*ii*) *White fly crop failure*, a symptom of which was excessive shedding of flowers and buds.

The periodic general failures would be at their worst when these 2 forms of failures were contemporary. Extreme xerophytic conditions in the form of an abnormal dry season would be conducive to both forms of failure. He wanted information regarding composition of the honey dew exuded by the White Fly and also the effect of the resultant fungus (which grows on honey dew) on photosynthesis.

Prof. Dastur stated that the first symptom of White Fly attack was to cause the leaf to wilt, (*Mr. Roger Thomas* questioned this), and that the effect of White Fly was to check photosynthesis, because the soils lost their rigidity. The effect on the bolls, therefore, was the starvation by water and carbohydrates rather than nitrogen. Further discussion concentrated on the effect of *environment* in causing '*Tirak*' and there was a general tendency to agree with the view already stated by Dr. Mason that with soil conditions in many places in the Punjab favouring '*Tirak*' environmental conditions might be the deciding factor in causing a crop failure. This, however, did not completely explain crop failure where all the soil conditions were completely favourable to the plant and this point required further attention. The small size of the plot 1/80th in some of the manurial experiments was noted as a possible cause of the lack of significance in the experiments. It was also noted in the saline soil in the year 1938-39 that environmental conditions were a factor completely overriding all treatments so far as the manurial experiments went. Late sowing in 1938-39 (so far as can be observed in 1939-40) seems to be a means of escaping '*Tirak*.' *Mr. Roger Thomas* however desired that too great emphasis should not be laid on late-sowing on account of :—

(1) possible damage due to frost,

(2) the later the cotton is sown the worse the *Jassid* attack, and

(3) the inevitable interference with the succeeding wheat crop.

He suggested the need for concentrating on getting early maturing varieties (another case where the collaboration between the cotton breeder and another branch of botanical science was essential). *Mr. Ramiah* emphasised the fact that in some tracts badly affected by '*Tirak*' there were local patches completely free.

The Progress Report was approved."

(*b*) *Lines of work to be followed during extension period—Reference from last meeting.*

The Committee at its meeting held in August 1939, while sanctioning the extension of the Punjab Physiological (Cotton Failure Research) Scheme decided that the Plant Physiologist should submit a note stating clearly and fully the items of work for which he was responsible and those which would be tackled elsewhere. In accordance with this decision, the note received from the Director of Agriculture, Punjab, was considered by the Agricultural Research Sub-Committee which made the following recommendations :—

"The Sub-Committee recommended that an experiment should be carried out on the two classes of '*Tirak*' soils to include major commercial varieties, a number of desirable new varieties and the remedial treatments. This should be done without replication and with single lines or very small plots in the first year. The object of this is to find out varietal susceptibility to '*Tirak*' and varietal response to remedial measures. It was agreed that this work should be done in collaboration with the plant breeder."

The Report of the Sub-Committee was adopted.

(*c*) *Request for additional grant.*

The Agricultural Research Sub-Committee considered a proposal submitted by the Director of Agriculture, Punjab, for an additional grant for extra staff during the extension period of the Punjab Physiological Scheme and reported as under :—

"The Sub-Committee recommended the appointment of Store-keeper for whom a case had been made out. Regarding the fieldmen and *muccadams*, it considered that no case had been made out as the number and location of sub-stations, the way in which they are to be managed, the work of the *muccadams* and the fieldmen and the relation of the sub-stations to the existing departmental work had not been made clear. The Sub-Committee felt that such work could easily be arranged in collaboration with the Department of Agriculture and that, if further expenditure were required, it could be met from within the existing budget of the scheme if some of the laboratory analyses of plant parts were reduced.

Mr. Stewart explained that the intention was that the experiments on '*Tirak*' soils which had been conducted at Lyallpur should be repeated at other farms. One of these was an Experimental Farm and for this he could provide the necessary facilities from the Departmental budget, but the other was a Seed Farm and in this case it would be difficult to provide the necessary help from the Departmental sources, so that while there was no difficulty in regard to one station, assistance was definitely required in the case of the other."

The Report of the Sub-Committee was adopted.

SUBJECT 17.—*Final Report on Hyderabad Pink and Spotted Bollworm Scheme—Reference from November* 1938 *meeting.*

The Committee in November 1938 considered the Final Report on the Hyderabad Pink and Spotted Bollworm Scheme (1932-37) and decided that it should be referred to Dr. U. S. Sharga, Assistant Professor of Entomology, United Provinces, and Dr. K. A. Rahman, Entomologist to Government, Punjab, for opinion. The Agricultural Research Sub-Committee considered the remarks of these officers and made the following observations :—

"The Sub-Committee agreed with the suggestions made by Rai Saheb Kalidas Sawhney in his letter, dated 27th December 1939, that the report should be revised on the lines proposed by him and that the results of the last three years' work should be incorporated in it. The Sub-Committee also recommended that the opinion of the Imperial Entomologist on the revised report should be obtained in time for consideration at the next meeting."

The Report of the Sub-Committee was adopted.

SUBJECT 18.—*Final Report on Scheme for Survey of Goghari Cotton in Gujerat.*

This scheme was sanctioned in August 1934 for a period of five years for carrying out field to field survey of *Goghari*, a short stapled variety, with a view to tracing it to ginneries and inducing the latter to discourage its cultivation by paying low prices for it. It came into operation in January 1935 and in view of the fact that its object had been attained, it was terminated in March 1939.

The Agricultural Research Sub-Committee considered the Final Report and made the following observations, which were accepted by the full Committee :—

> " The Sub-Committee noted with satisfaction that as a result of propaganda by the Agricultural Department and the passing of the Cotton Control Act, *Goghari* cotton had practically disappeared from Gujerat. The Director of Agriculture, however, reported that there was danger of *Goghari* seed coming from beyond the Narmada into the Gujerat area and being sown in the bordering villages of Gujerat. The Sub-Committee was of the opinion that the Provincial Government should take steps to prevent the import of such seed but should they for any reason be unable to do so, the Committee should be prepared to make a grant for the maintenance of a *Kamgar* at the rate of Rs. 30 per month for 10 months on the condition that at the end of this period the Provincial Government would take steps to prevent the import of *Goghari* seed into Gujerat.
>
> The Director of Agriculture, Bombay, reported that the cultivators in the protected area lying south of Narmada who formerly favoured *1-A* were now in favour of growing *1027 A. L. F.* The Sub-Committee recommended that the Bombay Government should be approached by the Committee to take necessary steps including legislation, before the next sowing season starts, against the growing of *1-A*.
>
> The Sub-Committee also recommended that the Baroda Government should take similar steps."

SUBJECT 19.—*Final Report on Scheme for Survey of Goghari Cotton in Baroda State.*

This scheme was sanctioned in August 1934 for a period of five years with the object of eliminating from Baroda State *Goghari*, a short staple variety, by means of field survey with a view to tracing it to ginneries and inducing the latter to discourage its cultivation by paying low prices for it. As, however, in the opinion of the Commissioner of Agriculture, Baroda, the object aimed at had been fulfilled the scheme closed down in May 1938.

The Agricultural Research Sub-Committee, which considered the final report, made the following recommendations which were approved by the full Committee :—

> " The Final Report on the scheme for survey of *Goghari* cotton in Baroda State was recorded. The Sub-Committee was of opinion that paragraphs 1, 4 and 5 of the report should be published in pamphlet form in *Gujerati* by the Baroda Government and distributed in the cotton tracts of the State during the current season."

SUBJECT 20.—*Final Report on Central Provinces Botanical Scheme.*

As the final report on the Central Provinces Botanical Scheme, which terminated on the 31st March 1939, had not been received, the Committee recommended its early submission.

SUBJECT 21.—*Central Provinces and Berar Cotton Breeding Schemes—Revised Programme of work for 1939-40—Reference from last meeting.*

The Central Provinces and Berar Cotton Breeding Schemes were sanctioned by the Committee in July 1938 for a period of 5 years with effect from the 1st April 1939. The following revised programme of work for the schemes was approved :—

A. Central Provinces Cotton Breeding Scheme.

(1) Yield tests with the undermentioned strains and varieties on Government Farms and the cultivators' fields in representative localities :—

V. 434,
Verum 438,
Late Verum,
Local Jadi,
Jarila, and
the two most promising strains of *Bani* × *Cernuum.*

(2) Preliminary yield trial of 12 strains of *Bani* × *Cernuum* cross, Local *Jadi* and *V. 434.*

(3) Study of fresh single plant selections made from the cultivators' crops of *local Jadi.*

(4) To make re-selections in the three strains—*V. 434, Verum 438* and *Late Verum*—to increase their ginning outturn. Selections should preferably be made in the bulk crop of these strains grown by the cultivators.

(5) Maintenance of different cotton varieties.

(6) Production of selfed seed of the new improved strains.

B. The Berar Cotton Breeding Scheme.

(1) Yield tests with the undermentioned strains on Government Farms and the cultivators' fields in representative localities :—

V. 434,
Verum 438,
Late Verum,
Local Jadi,
Jarila, and
the two most promising strains of *Bani* × *Cernuum* cross.

(2) Trial of *Buri 103, Buri 107* and Local *Buri* in two or three places in Burhanpur *Taluqa.*

(3) To make single plant selections from the *ryot's* crop of different representative tracts and study their performance at the Experimental Farm at Akola.

(4) To re-select in the bulk crop of *Buri* in cultivators' fields to improve its ginning outturn.

(5) Production of selfed seed of new strains.

(6) Maintenance of different cotton varieties."

SUBJECT 22.—*Scheme for Cotton Jassid Investigation in the Punjab—Revised Programme of work—Reference from last meeting.*

The revised programme of work was approved.

SUBJECT 23.—*Seed Distribution and Extension Schemes—Progress Report on Madras Co. 2 Scheme.*

In November 1929, the Committee sanctioned the Madras (Tiruppur) Seed Extension Scheme, the object of which was to provide, for a period

of five years, for the pay of an officer to act as an advisor to a group of Co-operative Societies in Coimbatore district which was growing improved strains of Cambodia cotton and to help the Agricultural Department in their seed distribution work. The scheme started in May 1931. In 1933, this scheme was amalgamated with the Tiruppur Co. 2 (Cambodia) Seed Extension Scheme sanctioned by the Committee in 1932 for a period of five years for the distribution of Co. 2 seed in the Salem and Coimbatore districts through the agency of the Madras Agricultural Department and the Tiruppur Co-operative Trading Societies by organising a seed multiplication area of not less than 6,000 acres and distributing pure seed sufficient for one lakh acres every year. The combined scheme closed down on the 17th August 1937.

At its meeting held in January 1938, the Committee considered proposals for the extension of the Madras Co. 2 scheme. As, however, it was held that the scheme could be worked on a self-supporting basis, only the appointment of a demonstrator and a *mistry* was sanctioned to the Tiruppur Co-operative Trading Society for a period of one year, after which, it was thought that no further assistance from the Committee should be required.

The Agricultural Research Sub-Committee considered the Progress Report and made the following recommendations :—

> " The Sub-Committee noted with satisfaction that the Madras *Co.2* Scheme had proved very useful for the *Cambodia* tract in the Madras Province and had benefited the cultivator to the extent of Rs. 15 per acre over the local variety.
>
> The Sub-Committee was of the opinion that the Madras Government should take necessary steps to distribute pure seed in large quantities and to maintain the purity of the crop.
>
> The Sub-Committee also recommended that in the case of seed schemes, sanction should ordinarily be accorded only after the Provincial Government concerned gives an undertaking that steps would be taken by them to maintain the purity of the crop at the end of the sanctioned period of the scheme."

The Report of the Sub-Committee was adopted.

SUBJECT 24.—*Seed Distribution and Extension Schemes—Progress Report on Scheme for maintenance of nucleus of pure seed of improved varieties of cotton in Madras Province.*

The scheme was sanctioned in January 1938 for a period of five years for the maintenance of nuclei of pure seed of the following three improved varieties of cotton grown in Madras Province and it came into operation in September 1938 :—

(1) *Co. 2* on Central Farm, Coimbatore,

(2) *K. 1* at Agricultural Research Station, Koilpatti, and

(3) *H. 1* at Agricultural Research Station, Hagari.

The recommendation of the Agricultural Research Sub-Committee that the Progress Report be approved was accepted.

SUBJECT 25.—*Projects for extension of results of research :—*

(*a*) *Reference from last meeting.*

The Agricultural Research Sub-Committee at its meeting in August 1939 considered proposals for three model projects for extension of improvements in cotton cultivation and decided that model project

schemes should be worked conjointly with the Imperial Council of Agricultural Research and that the Director of Agriculture, Bombay, should put up one complete model scheme. Revised proposals received from the Director of Agriculture, Bombay, for a scheme for five years were considered by the Agricultural Research Sub-Committee which reported on them as under :—

" The Sub-Committee recommended that the scheme be approved subject to the acceptance of the proposals by the Imperial Council of Agricultural Research and the following alterations and observations :—

(1) that the period be reduced to three years,

(2) that the distribution of costs be as follows :—

(*a*) *Recurring*—50% Provincial Government,
25% Imperial Council of Agricultural Research,
25% Indian Central Cotton Committee.

(*b*) *Non-recurring*—Rs. 500 by the Imperial Council of Agricultural Research,
Rs. 500 by the Indian Central Cotton Committee,
Balance by Provincial Government,

(3) that item (*f*) of the proposals, namely, '*miscellaneous items of improvements to be introduced*,' be revised as follows :—

Items (2) and (4) should be omitted,

Items (5), (6) and (7) should be lumped together as follows :—

(5) Establishment of subsidiary industries like (*a*) poultry keeping, (*b*) rope making (provided fibre is locally available), and (*c*) preparation of *ghee* by better methods.

The proposed item (9) should be omitted,

(4) that the provision made for the Supervisor, who presumably would be an employee of the Agricultural Department, should be the pay of the substitute employed in his place, *viz.*, the minimum of the grade,

(5) that provision should be made for the keeping of accounts the exact form in which this should be done to be settled by Directors of Agriculture at the time of the next meeting of the Imperial Council of Agricultural Research. The Sub-Committee considered that proper keeping of accounts was a necessary part of such schemes, and, in order to obtain comparative figures, accounts must be maintained both on the 200 acres included in the project and on a similar area adjoining but outside it,

(6) the Sub-Committee was unable to accept the calculations contained in pages 4 and 5 of the scheme,

(7) the scheme should be under the control of the Agricultural Department."

The report of the Sub-Committee was adopted.

(*b*) *Letter from the Imperial Council of Agricultural Research.*

The Committee approved the recommendation of the Agricultural Research Sub-Committee that the proposals of the Imperial Council of Agricultural Research in regard to the distribution of cost of model projects be accepted.

SUBJECT 26.—*Policy of the Committee with regard to Seed Distribution and Extension Schemes—Reference from last meeting.*

SUBJECT 27.—*Re-orientation of Cotton Breeding work—Direction and guidance to Cotton Breeders—Letter from Mr. Roger Thomas—Reference from last meeting.*

These subjects were considered by the Agricultural Research Sub-Committee which made the following recommendations :—

" The Sectional Sub-Committee which considered these subjects reported as follows :—

These subjects were considered at some length. In regard to revised Form (D), the Sub-Committee

(1) assumed that the data therein would refer only to cottons grown on experimental farms or otherwise under departmental control ;

(2) recommended that instead of Centals, the Imperial *maund* of 82-2/7 lbs. be used ;

(3) felt that reliable data for columns (6) and (7) will not be available till the new strain has spread ;

(4) recommended that for column (8) the value of the *kapas* should be based on the local market rate ;

(5) considered that the data in column (10) will be of rather doubtful practical value, since in the early years of an experiment the data on which the information is calculated will be few, and

(6) recommended that a " Remarks " column should be added so that information may be given concerning any special factors which have influenced the yield in a particular year.

If Form (D) with these alterations is accepted, the information referred to in para 2 of the Secretary's note for the meeting on 31st July-1st August 1939 may be omitted.

In regard to *Subject* 20, much of the data in the proposed four forms is already included in reports as now submitted. Form (D) is identical with the proposed Form (D) in *Subject* 19.

In regard to the other three forms, the Sub-Committee felt that they required some elucidation and recommended that they be discussed in the Agricultural Research Sub-Committee."

At the full Agricultural Research Sub-Committee *Mr. Thomas* moved the following resolution, which was approved by the Sub-Committee :—

" That the Secretary will undertake the preparation and amendment of such Forms as he may consider necessary for submission to the Committee by Cotton Breeders and Sponsors of seed distribution and extension schemes. These amended standardised Forms should be based on the draft Forms considered by the Agricultural Research Sub-Committee at this meeting. They should be amplified so as to incorporate also the earlier relevant resolutions of the Committee, and the amended Forms should be submitted for the final consideration of the Committee at its next meeting."

The resolution was accepted."

The recommendations of the Sub-Committee were approved.

SUBJECT 28.—*Institute of Plant Industry, Indore—Re-organisation of, and Budget Estimates and Programme of work for 1940-41.*

The Committee at its meeting in August 1939 appointed a Special Sub-Committee to go into the question of the re-organisation of the Institute of Plant Industry, Indore, and to make suitable recommendations. The Sub-Committee after examining the whole position was

unanimously of the opinion that fundamental research on genetics and plant physiology should be treated as a separate scheme under the Committee, expenditure on which should be borne entirely by the Committee and that the work of the Institute which would include plant breeding on cotton and other crops, seed multiplication, distribution and demonstration and such agronomical and chemistry work as might be considered desirable to continue for the benefit of the States, this should be controlled by the Board of Governors of the Institute and financed from the joint contributions of the States and the Indian Central Cotton Committee. The above recommendations, which were accepted by the Standing Finance Sub-Committee were approved by the Agricultural Research Sub-Committee and the Indian Central Cotton Committee.

SUBJECT 29.—*Cotton Genetics Research Scheme, Indore—Budget Estimates and Programme of work for 1940-41.*

As a result of the reorganisation of the Institute of Plant Industry referred to under Subject 28, the Agricultural Research Sub-Committee considered the Budget Estimates and Programme of Work for the Cotton Genetics Research Scheme. The recommendations of the Agricultural Research Sub-Committee as amended by the Committee are as follows :—

"The Sub-Committee recommended that the Budget for 1940-41, as submitted, be approved.

In regard to the proposed programme of work, the Sub-Committee recommended :—

(1) that under the head 'Genetics' work in item (*b*) "wilt resistance in *arboreum* cottons" should be carried out in collaboration with Dr. Uppal and that the following new item should be added :—

(*c*) Study of the potentialities of different ecotypes with regard to the combination of economic characters; and

(2) that under the head "Cytology" item (*b*), *viz.*, "Study of the cytology of Interspecific hybrid from Surat" should be deleted.

The Sub-Committee also considered it desirable that the following items should be taken up for study :—

(1) The factors which give rise to undeveloped ovules and immature fibres in different cottons.

(2) The factors which affect boll opening and locular composition.

The Sub-Committee was of the opinion that if the additional work could not be taken up by the existing staff, proposals for additional help may be put forward.

Subject to the above modifications, the programme of work for 1940-41 was approved."

SUBJECT 30.—*Report of the Agricultural Research Sub-Committee.*

The Report of the Agricultural Research Sub-Committee, as amended by the Indian Central Cotton Committee, was adopted.

SUBJECT 31.—*Progress Report of the Technological Laboratory for the period ending 30th November 1939.*

The report of the Technological Research Sub-Committee as amended and adopted by the Indian Central Cotton Committee is as follows :—

"The Sub-Committee recommended that in future a programme of work should be sent once a year to the Secretary for inclusion in the agenda as a separate item for the consideration of the Committee and that the progress report should indicate the progress made under each approved item of the programme.

In connection with the tests on linters, the question of the steps to be taken for the production of cleaner linters from Indian cottons was considered, and it was agreed that the information obtained from the tests might be communicated to

concerns responsible for delinting and also made generally available by the issue of leaflets. The Sub-Committee noted that the graded samples of linters ordered from the U.S.A. had arrived and that it would now be possible to proceed with the work of comparing and grading Indian linters.

The Sub-Committee recommended that the publication entitled "Cotton Research in India," which contains an account of the work done at the Technological Laboratory from 1924-35, should now be revised and brought uptodate, and that a summary should be included in it, giving a brief account of the results of all the more important investigations carried out since 1935; the title of the publication should be altered to "Technological Research on cotton in India."

It was decided that papers on non-technological matters should be published as far as possible in India instead of being sent to the Journal of the Textile Institute and that the paper relating to "Inheritance of certain characters, etc.," should be withdrawn and sent to the Imperial Council of Agricultural Research for examination before it is published.

As no work has so far been done to ascertain the difference in the spinning value of cottons from the first, second and last pickings, the Sub-Committee was of the opinion that it would be of considerable value to the trade if this could be investigated at the Technological Laboratory. It was suggested that, if possible, the percentage of last picking to the total crop might also be ascertained.

The Sub-Committee decided that, in future, the Director should forward to the Secretary a confidential report on the work of each member of his staff once a year."

The Director's report was approved.

SUBJECT 32.—*Technological Assistant, Surat—Extension of appointment of—.*

The extension of the appointment of the Technological Assistant, Surat, for a period of 5 years from the 1st April 1940 was approved.

SUBJECT 33.—*Finding of alternative uses for short staple Indian cotton—Reference from March 1939 meeting.*

The recommendations of the Technological Research Sub-Committee as amended and approved by the Indian Central Cotton Committee, were as follows :—

"The Sub-Committee considered the report of the Director giving a review of the uses to which cotton has been put in the U.S.A. and other countries, and decided that he should now prepare a programme of work, for the consideration of the Local Sub-Committee, on such of the items in the report as indicate possibilities of being successfully introduced in this country. The inclusion of the following items was tentatively suggested :—

(1) *Possibilities of using cotton for road-making.*—The view was expressed that the Municipalities of Bombay and Calcutta might be consulted in connection with the experiments to be carried out in this connection.

(2) *Bagging for cotton bales, sugar and cloth bales.*—As regards the use of cotton cloth for bagging cotton bales in replacement of hessian, it was suggested that, for purposes of comparison, the investigation should be conducted on the basis of the normal price of cloth manufactured from waste, and the normal price of hessian. It was felt that the cost worked out under war conditions did not provide a proper basis for comparison. The Sub-Committee was of the opinion that investigations should be undertaken to ascertain the extent of penetration of moisture, dust, etc., into cotton bagging, the liability of cotton bagging to the attack of insect pests, the water absorbing capacity of cloth bagging compared with that of hessian, and the possibilities of using cloth bags for sugar and cloth bales.

It was suggested that the views of the Karachi Cotton Association, Ltd., regarding the use of cotton cloth for bagging cotton bales in replacement of hessian might be communicated to the East India Cotton Association.

(3) *Absorbent cotton.*—The Sub-Committee thought that this offered some scope, and suggested that an attempt should be made by the Director to find out the quantity of absorbent cotton used in India. It was suggested that samples of absorbent cotton prepared at the Technological Laboratory should be sent to the various hospitals and their opinion obtained on them as compared

with the imported stuff. It was also suggested that the Laboratory should get into touch with the Director-Generals of Civil and Military Hospitals and also with the Bengal Chemical Co. with a view to finding out the cost of manufacture of absorbent cotton and whether Indian cotton could be utilised for this purpose.

It was suggested that the possibility of manufacturing lint might also be investigated.

(4) *Imitation leather trunks.*—This, the Sub-Committee thought, was another item which might be investigated, and it was suggested that samples of imitation leather might be obtained and analysed with the object of finding out the process of manufacture.

(5) *Substitute for wall paper.*—The Sub-Committee also suggested investigating the possibilities of using cotton cloth as a substitute for wall paper. The view was expressed that if this proved to be suitable, a market might readily be found for it in places like Bombay and Calcutta.

(6) *Filter cloth for sugar factories.*—It was suggested that enquiries might be made to find out the possible demand for filter cloth by sugar factories and that samples of such cloth might be prepared and sent to the sugar factories for opinion.

(7) *Use of Indian cotton in U.S.A.*—It was suggested that the Director, Technological Laboratory, might find out from the U.S.A. (through the India Government Trade Commissioner) for what purposes exactly India's short staple cotton and cotton waste were being imported by them.

(8) It was suggested that enquiry should be made regarding the use of mill waste as manure."

The question was raised as to whether cotton bales covered with cotton hessian would be considered a proper tender in fulfilment of contracts and it was decided that before this point is taken up the investigations recommended by the Technological Research Sub-Committee should be undertaken.

SUBJECT 34.—*New uses for cotton—Extract from "Tropical Agriculture," October 1939.*

The Committee agreed with the recommendation of the Technological Research Sub-Committee that the change of policy of plant breeding proposed in the extract so as to produce less lint and more seed should not be accepted.

SUBJECT 35.—*Report of the Technological Research Sub-Committee.*

The report of the Technological Research Sub-Committee as amended was adopted.

SUBJECT 36.—*Proposed All-India Crop Forecast Improvement Scheme—Letter from Imperial Council of Agricultural Research.*

The Committee agreed with the recommendation of the Cotton Forecast Improvement Sub-Committee that as the scheme had not been recommended by the Advisory Board of the Imperial Council of Agricultural Research no action for the present was necessary.

SUBJECT 37.—*Post-mortem examination of all-India cotton forecasts of 1938-39 season.*

The Cotton Forecast Improvement Sub-Committee which considered this subject reported on it as follows :—

"*Preliminary.*—The Director General of Commercial Intelligence and Statistics pointed out that the figures of the so-called actual crop on which the *post-mortem* examination was based were unreliable as they depended on several unknown factors

for which rough estimates had to be made. The so-called actual was therefore in reality only an estimate; hence it did not follow that if the Government forecasts differed from this estimate, the former were necessarily incorrect. It was generally agreed, however, that the discrepancies between the two sets of figures were so marked that it was advisable to examine them with a view to see how far they could be reconciled.

United Provinces.—It was observed that the actual crop was in the neighbourhood of 244,000 bales against the forecast of 181,000 bales. The view was expressed that the error in the cotton forecasts of the province was mainly due to incorrect reporting in regard to the condition factor. There was a tendency on the part of the village accountants who have to make the preliminary estimates to report a normal crop as one of twelve annas instead of regarding it as one of 16 annas. It was noted that the matter of securing improvement in this direction as recommended by the Committee in March 1939 was receiving the attention of the Director of Agriculture, United Provinces, and the Provincial Board of Revenue.

Punjab.—With regard to the observed discrepancy between the forecast and the 'actual crop,' the Sub-Committee recommended that the results of recent revision of the standard yield figures for cotton for the British districts in the Punjab should be watched for two or three more seasons before expressing any definite views in the matter.

Sind.—The underestimation (about 11% of the actual crop) in the forecast of the province was stated to be due to inaccuracy in the condition factor. It was observed that no action had yet been taken on the recommendation made by the Committee in March 1939 that the application of a correction factor to the anna valuation figures reported for forecasts should be given a trial for a year or two. The Director of Agriculture, Sind, explained that the matter rested not with him but with the Sind Government. The Sub-Committee accordingly suggested that the Secretary should send a detailed letter on the subject to the Director of Agriculture requesting him to take up the matter with the Government.

Central Provinces and Berar.—The Sub-Committee noted that the position in the Central Provinces was on the whole satisfactory. The Director of Land Records, Central Provinces and Berar, pointed out that the discrepancy between the forecast and the actual crop for the province as shown in the Secretarial note would disappear if the figures for movement of cotton by road were taken into account. The Sub-Committee recommended that the relevant figures of road transport should be obtained from the authorities concerned before the preparation of the usual *post-mortem* note for the Committee.

Bombay Province.—The under-estimation in the forecast of the Gujerat block for 1938-39 was considered; it was observed that the position in previous years also had been very similar. The view was expressed that this consistent under-estimation might probably be the result of incorrect anna valuation. After some discussion, the Sub-Committee recommended that the Director of Agriculture, Bombay, should examine the question of applying a correction factor to the anna valuation figures for purposes of forecasts.

Nizam's Territory.—With regard to the discrepancy between the forecast and the actual crop for this block, as shown in the Secretarial note, the Director of Statistics, Hyderabad State, explained that the figures of road transport should be taken into consideration. According to the figures available with his Department, the actual crop was about 456,000 bales against 325,000 bales shown in the Secretarial note and 507,000 bales shown in the forecast. The Sub-Committee recommended that the Secretary might write to the appropriate authorities and ask them for the details as to how the figure of 456,000 bales had been arrived at and for the actual figures of road transport.

Madras.—The possibility of bringing the Madras forecasts in line with those of the rest of India by issuing them for the year ending the 31st August was examined, but it was found that this was not feasible as the cotton crop was usually sown as a *rabi* crop and pickings often continued till August.

General.—There was a general discussion on the desirability or otherwise of obtaining direct quantitative estimates of the yield per acre in place of the existing system of anna valuation. The Director General of Commercial Intelligence and Statistics, Calcutta, however, strongly supported the retention of the system of anna valuation on the ground that direct estimates of the yield per acre would be liable to even greater error. Against this, it was argued that whatever might be

the position in the U.S.A. and elsewhere, the cultivator in India appeared to be able to make a fairly accurate estimate of the yield from the fields in his own village and it was pointed out that this system had been adopted in some provinces. The feeling of the Sub-Committee, however, was that it was not in a position to recommend any change in the systems prevailing in the different provinces but steps should be taken to obtain more accurate figures and that Directors of Agriculture might be asked to make direct estimates of yield, in addition to anna valuation figures for purposes of comparison.

The Sub-Committee felt that as *post-mortem* examination of the All-India Cotton Forecasts had been carried out for several years, the time had now come when some practical action should be taken to rectify, as far as possible, the sources of errors revealed by such examination. As a first step, therefore, the Sub-Committee recommended that the relevant portions of the *post-mortem* examinations should be forwarded to the forecasting authorities of the various provincial and State Governments, asking them to take steps to give effect to the recommendations made by the Special Enquiry Officer, Bombay, and endorsed by the Cotton Forecast Improvement Sub-Committee. It was suggested that the forecasting authorities might also be asked to inform the Committee of the action taken by them for securing greater accuracy, and, where it was not found feasible to give effect to the recommendations of the Sub-Committee to indicate, if there be no objection, the nature of the difficulties encountered. The Sub-Committee noted with satisfaction that as a result of the schemes financed by the Committee, at least two provinces, Bombay, and the Punjab, had revised their standard yield figure of cotton which is one of the main sources of errors in forecast estimates, and hoped that other provinces will follow suit. The view was expressed that in some provinces the adoption of a correction factor as recommended in the report on the scheme for improvement of cotton forecasts in Bombay may lead to forecast estimates being nearer the mark than was the case at present."

The recommendations of the Sub-Committee were approved.

SUBJECT 38.—*Revision of standard yield figures for cotton—Proposed co-ordinated scheme for crop-cutting experiments on cotton—Reference from last meeting.*

This subject was considered by the Cotton Forecast Improvement Sub-Committee which recommended the appointment of a Special Sub-Committee to examine and report on the replies from the forecasting authorities in Provinces and States in regard to the proposed co-ordinated scheme for crop cutting experiments on cotton on an All-India basis put up by Prof. Mahalanobis. The recommendation was accepted.

SUBJECT 39.—*Proposed extension of appointment of Clerk employed in the office of the Director-General of Commercial Intelligence and Statistics in connection with the monthly reviews of the state of foreign trade in Indian cotton.*

The extension of the appointment of Clerk employed in the office of the Director-General of Commercial Intelligence and Statistics in connection with the monthly reviews of the state of foreign trade in Indian cotton was approved. It was, however, agreed that for reasons stated in the Secretary's note, the scale of pay of the clerk should not be increased.

SUBJECT 40.—*Report of the Cotton Forecast Improvement Sub-Committee.*

The Report of the Cotton Forecast Improvement Sub-Committee was adopted.

SUBJECT 41.—*Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee.*

The Proceedings of the Punjab Provincial Cotton Committee were recorded.

SUBJECT 42.—*Scheme for financing seed distribution in Sind—Letter from Sind Government.*

It was urged, for the reasons stated by the Sind Government, that the grant sanctioned should not be withheld until the Cotton Ginning and Pressing Factories (Amendment) Act and the Rules thereunder were brought into force. Ginowners and some responsible growers were opposed to the Act especially because of the difficulties connected with the definition and detection of " mixtures " and owing to the insufficiency of supply of pure seed. The latter, it was stated, could be overcome in a year or two if the money withheld were made available. The want of money, it was further stated, restricted the area for the production of pure seed and indirectly delayed the operation of the Act. Further difficulties in the way were that pure cotton did not get its proper price and that there was a demand for mixed cotton. The desirability of not discriminating against Sind was stressed on the ground that other Provinces which were in the same position, nevertheless received grants from the Committee.

Against these views it was urged that, as some other Provinces had already put into operation the Cotton Ginning and Pressing Factories (Amendment) Act and Rules, there was no reason for Sind to stand out. It was finally decided that before the grant was paid to Sind, the representatives from Sind should obtain the views of their Associations as to whether or not they were in favour of the application of the Amendment Act and the Rules thereunder to Sind. It was decided that the matter should be referred to the Cotton Ginning and Pressing Factories Sub-Committee for coming to some workable arrangement.

SUBJECT 43.—*Notification by Holkar Durbar suggesting to cultivators how advantage can be taken of rise in price of cotton due to the war.*

The Notification was recorded.

SUBJECT 44.—*Supervision and conduct of research schemes financed by the Indian Central Cotton Committee—Resolution by Ch. Shiva Mangal Singh.*

The following resolution was moved but was subsequently withdrawn and it was decided to call for a report from the Director of Agriculture, United Provinces, on the complaints made by the United Provinces' representatives :—

> " In view of the growing public dissatisfaction with the conduct and supervision of the researches financed by the Indian Central Cotton Committee and also because such researches involve expenditure from the Provincial Budget for financing preliminary and/or supplementary trials and investigation and meeting the cost of administrative control and supervision it is resolved that the responsibility of the Indian Central Cotton Committee and the Provincial Governments for the proper conduct and supervision of the research schemes be clearly defined."

SUBJECT 45.—*Agricultural Research Schemes—Proposed extensions of—*
(a) Punjab Bollworm Clean-up Scheme.

This scheme, which is an offshoot of the Punjab Pink and Spotted Bollworm Scheme, was sanctioned for a period of two years from the 1st April 1937. An extension of 10 months was sanctioned in November

1938 and on the recommendation of the Agricultural Research Sub-Committee a further extension of three months up to the 30th April 1940 was agreed to.

(*b*) *Punjab Botanical Scheme.*

The Punjab Botanical Scheme was sanctioned in December 1924 for five years, was extended in 1929 for another five years and again in February 1935 for a further period of five years.

The original object of the scheme was the investigation of the causes of the periodic failures of American cotton in the Canal Colonies and the obtaining of suitable types of American and *Desi* cottons to replace the *4F* and *Desi* cottons, respectively. In view, however, of the immediate economic value of the improved types of cotton, work is being concentrated on the problem of breeding and a separate physiological scheme has been sanctioned for the investigation of the problem of periodic failures of American cotton.

The Agricultural Research Sub-Committee at its meeting in August 1939 considered proposals for the extension of the scheme for a further period of five years from the 1st April 1940 to the 31st March 1945 and made certain recommendations in accordance with which revised proposals were submitted by the Director of Agriculture, Punjab, for the extension of the scheme for a further period of four years from the 1st March 1941. These proposals were considered by the Agricultural Research Sub-Committee which reported on them as under :—

" The Sub-Committee first considered whether the directions of the Committee at its last meeting as regards the submission of the scheme (*a*) as a series of separate schemes, and (*b*) as a combined scheme had been followed and after discussion agreed that the directions had been carried out. In the course of his remarks on the scheme, *Mr. Thomas* laid stress on the following points :—

(1) the need for carrying out to a greater degree experiments on cultivators' fields so that final conclusions should be supported by data based on actual farming conditions,

(2) that there should be the greatest possible collaboration between the breeder and other scientists working on cotton problems,

(3) in the programme, in addition to re-selection inside *289F/43*, there should also be continued research for good plants in cultivators' fields,

(4) that hybridisation work should be restricted and that the chief aim in hybridisation with *289F* types should be to attain high ginning percentage and high resistance to jassids,

Mr. Mohammad Afzal considered that naked seed should also be a third objective.

(5) that acre cash values should be regarded as of the greatest importance,

(6) that in single plant selection it may speed up matters if selections were made for the undermentioned qualities in the following order :—

(*a*) high yield,

(*b*) ginning percentage,

(*c*) length.

This will enable early elimination of many unsuitable types.

In the programme, it should be specially arranged to test, for resistance to Jassids and to '*Tirak*' (on two kinds of soil) and to White Fly, all new varieties before recommending them for general cultivation in so far as such tests may be practicable,

(7) that prominence should be given to breeding of Americans rather than *Deshi*. (It was pointed out by Mr. Stewart that *Deshi* could not be neglected. *Mr. Thomas* agreed and simply desired that work on Americans should not suffer on account of attention being paid to *Deshis*.)

Rao Saheb K.I. Thadani made the suggestion that the two new schemes should be fully financed by the Indian Central Cotton Committee and the remaining schemes by the Punjab. *Mr. Stewart* pointed out that the Punjab Botanical Scheme would, up to February 1941, have cost Rs. 5,94,000, thus showing a saving of Rs. 1,50,000 on the amount actually stated by the Secretary as payable on this scheme. The Punjab had always borne an increasingly large part of the cost and in the future would bear Rs. 2,16,000 as against Rs. 92,000 by the Indian Central Cotton Committee. *Rao Saheb Thadani* considered this was not a safe comparison since all provinces had a large expenditure on their own cotton work. *Mr. Stewart* replied that the expenditure cited was entirely for botanical work and that the Punjab was in addition carrying out agronomical work at its own cost. *Mr. Chellaram Shewaram* stressed the importance of *L. S. S.* in the trade and said that it was in great demand. The obtaining of an earlier form of *L. S. S.* was, therefore, of importance. In conclusion, the Sub-Committee unanimously agreed to recommend the scheme as now presented, subject to the inclusion in the programme of work such practicable modifications as may be indicated in the Report of the Agricultural Research Sub-Committee."

The Sub-Committee's report was adopted.

(c) Hyderabad Pink and Spotted Bollworm Scheme.

This scheme was sanctioned by the Committee in 1933 for a period of three years and came into operation on 1st June 1933. It was provisionally extended in January 1936, and in August 1936 a further extension for two years from 1st October 1936 was sanctioned. It was again extended in August 1937 for one year from the 1st October 1937. An interim extension for six months was sanctioned in July 1938 and in November 1938 a further extension for a period of one year up to the 31st March 1940 was agreed to.

The object of the scheme is to determine the amount of damage done by the pink and spotted bollworms to the cotton crop of the Godavary Valley, to watch the progress of their attack on the growing crop in the season, to find out the mode of their carry-over from one season to another and to study the effect of the likely control measures.

The Agricultural Research Sub-Committee considered proposals for an extension of the scheme for a further period of seven months from 1st April 1940 and recommended an extension for two months only to complete the analysis of the cotton samples already collected and for the writing-up of the revised report.

The recommendation of the Sub-Committee was accepted.

SUBJECT 46.—*New Agricultural Research Scheme—Scheme for Bollworm Investigation and Clean-up Campaign in Sind.*

The object of the scheme is to study the incidence and distribution of bollworms and damage done by them under Sind conditions and to devise, if possible, control measures against them.

The revised proposals submitted were considered by the Agricultural Research Sub-Committee. The Sub-Committee's report, as amended and adopted by the Committee, was as follows :—

"The Sub-Committee recommended that the scheme be approved subject to the following alterations and observations :—

(1) This scheme is essentially one for the district staff and not for the Entomologist to carry out. It should be under the charge of the Deputy Director of Agriculture in the area concerned. The employment of a Cotton Entomologist is unnecessary.

(2) The proposed lines of work are approved, but the test of the efficacy of the implements evolved elsewhere can be done by the existing departmental staff.

(3) The five hundred square mile area must be in one compact block.

(4) Two graduate assistants are adequate and in these posts the two assistants who would be available from the Punjab scheme should be absorbed.

(5) One peon is adequate.

(6) No details are provided to enable the Sub-Committee to decide whether the proposed provision under 'Contingencies' is excessive. The necessary details should be supplied to the Finance Sub-Committee.

(7) It is probable that it may be possible to transfer some *kudalis* from the Punjab, thus reducing the proposed cost of implements. Similarly, it may be possible to transfer the night caging apparatus from the Punjab. If this is possible, the full provision made in the scheme will not be required in both cases.

(8) As details of the actual area of cotton to be treated are not provided, the Sub-Committee cannot decide whether 60 *kamgars* are necessary or excessive. It recommended that whilst the existing provision may stand, not more than 40 *kamgars* should be employed without the special permission of the Indian Central Cotton Committee.

(9) The emergency reserve of Rs. 5,000 provided in the budget is not to be spent without the special sanction of the Standing Finance Sub-Committee of the Indian Central Cotton Committee."

SUBJECT 47.—*Bollworm Pest in Bombay and Baroda—Legislative measures for eradication of—.*

The Secretary's note indicating the action taken by the Government of Bombay and the Baroda State in regard to the control of the cotton bollworm pest was recorded.

SUBJECT 48.—*Proposed forms of monthly returns of cotton ginned under provisions of Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936—Letter from Director of Agriculture, Bombay.*

This subject was considered by the Cotton Forecast Improvement Sub-Committee which made the following recommendations :—

"The proposal contained in the Secretarial note for the adoption of a *Boja* of 392 lbs. as the unit in the proposed ginning returns for Bombay Province was accepted.

The Sub-Committee was of the opinion that monthly returns should suffice and that it was not necessary to insist on weekly returns.

With regard to the form of monthly consolidated ginning return, the Sub-Committee considered that the classification by trade blocks proposed by the Director of Agriculture, Bombay, would be suitable,

The Sub-Committee was of the opinion that the various cotton growing provinces and States should be requested to take steps to amend the existing Cotton Ginning and Pressing Factories Act or other similar legislation to provide for the regular submission of returns by ginning factories."

The Sub-Committee's recommendations were accepted.

SUBJECT 49.—*Manufacture of artificial silk from Indian cotton—Purchase of a Pilot Plant for determining the cost of production of chemical cotton—Present position.*

The Technological Research Sub-Committee which considered this subject reported on it as follows :—

"The Sub-Committee recommended that the Government of Bombay might be asked for an early reply regarding joint expenditure on the report to be submitted by Messrs. Lockwood Greene, Engineers. The Sub-Committee was, however, of the opinion that, should the Bombay Government not be willing to share the expenditure, the Committee should proceed with their part of the experiment, *i.e.*, investigations relating to the possibilities of manufacturing chemical cotton on a commercial scale in India, and obtain a report from the firm up to this stage of the experiment."

The Sub-Committee's recommendation was accepted.

SUBJECT 50.—*Proposed grant of permission to Mr. K. Ramiah, Geneticist, Institute of Plant Industry, Indore, to undertake preparation of a Monograph on Rice Breeding and Genetics in India.*

It was agreed that Mr. Ramiah should be allowed to undertake the preparation of the monograph on rice breeding and genetics in India.

SUBJECT 51.—"*Impressions of cotton growing in India by a visitor from Egypt and the Sudan*" *by Frank Crowther,* (*Agriculture and Livestock in India, July 1939*)—*Suggestions in connection with cotton research in India.*

SUBJECT 52.—*Cotton Manuring—Note by Dr. W. Burns.*

These subjects were considered by the Agricultural Research Sub-Committee which made the following recommendations which were accepted by the Committee :—

"The attention of the Sub-Committee was drawn to the fact that Rao Bahadur Vaidyanathan had in 1933-34 published some volumes containing analyses of manurial experiments on various crops, including cotton, in India, and hence most of the work of collection of data up to that year had already been done. It was decided that Mr. V. G. Panse, Statistician at the Institute of Plant Industry, Indore, who was at present undergoing special training in statistical methods under Prof. Fisher in England and was due back in June 1940, should be given the work of examining the data collected up to 1934 and that he should also collect and examine data of subsequent years in so far as they relate to cotton and should design model lay-outs of manurial experiments for cotton for the consideration of the Committee.

Mr. Roger Thomas thought that a model for irrigated and a model for unirrigated conditions were required, and laid great stress on the success of the complex factorial experiments carried out by Dr. Crowther in Egypt. He was inclined to think that attempts should not be made to deal with too many elements in the proposed model experiments and possibly only with nitrogen."

SUBJECT 53.—*List of scientific papers forwarded to Imperial Council of Agricultural Research for publication.*

The list of papers forwarded to the Imperial Council of Agricultural Research for publication was recorded.

SUBJECT 54.—*Bengal Comilla Cotton Scheme :—*

(*a*) *Observations of the Sub-Committee on Progress Report for 1938-39 —Letter from Director of Agriculture, Bengal.*

The Committee agreed to the proposal of the Director of Agriculture, Bengal, that Dr. S. Hedayatullah should supervise the work on the Bengal Comilla Scheme and suggested that this supervision should be such as may be deemed necessary.

(*b*) *Collection of Garo Hill material for Chittagong Hill Tracts—Letter from Director of Agriculture, Bengal.*

The Committee agreed to the suggestion of the Director of Agriculture Bengal, that as the Chittagong Hill Tracts material had deteriorated considerably a collection of material might be made from the Garo Hill cotton and that this item may be included in the programme of work for 1940-41.

SUBJECT 55.—*Description of cotton varieties throughout India according to the method recommended in Indian Journal of Agricultural Science, October 1938, pages 567-602—Note by the Agricultural Commissioner with the Government of India— Reference from last meeting.*

It was decided that those provinces and States which had not yet sent in the descriptions of cotton varieties should be reminded and that when these are received, the material should be edited by Mr. Ramiah for publication.

SUBJECT 56.—*Proposed amendments to the Revised Trade Classification of Indian Cottons.*

The Cotton Forecast Improvement Sub-Committee which considered this subject reported as follows :—

" The East India Cotton Association had in connection with the revised trade classification of Indian cotton objected to the inclusion of :—

(*i*) Cotton grown in the Jhalawar and Partabgarh States and Sironj, Chhabra and Pirawa Parganas of Tonk State under " *Central India* " instead of under " *Rajputana deshi.*"

(*ii*) Cotton grown in the Phaltan State, Atpadi *Mahal* of Aundh State and Man *Peta* of Satara district under " *Kumpta* and *Upland* " instead of under " Barsi-Nagar *Oomras* " and

(*iii*) Cotton grown in the Akalkot State under " Barsi-Nagar *Oomras* " instead of under " Hyderabad *Oomras.*"

The Sub-Committee held that as the revised classification had only this year been introduced by the Government of India in accordance with the recommendation of the Committee and as the areas in question were comparatively small and in some cases negligible, and as the local authorities were not in favour of the proposals of the East India Cotton Association, no change should be recommended for the present.

With regard to objection (*ii*) above, the Director of Agriculture, Bombay, undertook to write to the authorities concerned regarding the cultivation of only *Kumpta* and *Upland* types in the Phaltan State, Atpadi *Mahal* of Aundh State and Man *Peta* of Satara district.

As regards the classification of cotton grown in the Nawapur *Peta* of the West Khandesh district, it was agreed that, as the proposal to constitute the *Peta* as a separate protected zone was under the consideration of the Provincial Government, and was likely to be introduced before the next season, no change in the classification was desirable.

The Sub-Committee accepted the recommendation of the Director of Agriculture, Bombay, that cotton grown in the Wankaner State should be shown partly under "Kathiawar *Dholleras*" and partly under "Kathiawar Short Staple" in the Revised Trade Classification; this amendment should be given effect to from the 1940-41 season."

The recommendations of the Sub-Committee were approved.

SUBJECT 57.—*Technological Laboratory—Budget for* 1940-41.

The Budget of the Technological Laboratory was approved.

SUBJECT 58.—*Standardisation of methods of Shirley and Technical Institutes—Letter from Sir William Roberts.*

The following report of the Technological Research Sub-Committee, which considered this subject, was adopted :—

"The question of the desirability of the Shirley Institute and the Technological Laboratory adopting a standard comparable method for their various tests so as to increase the value of their work for the future of cotton research was considered. The Director pointed out that he had made a number of experiments to connect the Shirley Institute's results with those of the Laboratory, but the additional advantage obtained was not compatible with the trouble taken. He thought that, in so far as the Indian cottons were concerned, the existing practice had given no grounds for making a change; further that the Laboratory results on fibre maturity agreed very closely with those of the Shirley Institute. The Sub-Committee was of the opinion that while uniformity had its advantages, the need for tying down the Laboratory to any particular method only for the sake of uniformity was not clear. There was the disadvantage of a break in the continuity of the past work to be taken into account and unless there were definite advantages a "change over" to a new method was not desirable.

At the same time, the Sub-Committee felt that the matter seemed one of importance and should be followed up. It was decided that the Director should get into touch with Dr. Pickard and Dr. Turner of the Shirley Institute intimating to them that this question had been raised at the Indian Central Cotton Committee and that he would like to have their views in the matter. It was suggested that the Director should write to America also in this connection."

SUBJECT 59.—*Cotton cloth cover for bales—Letter from Sir William Roberts, British Cotton Growing Association (Punjab) Ltd., Khanewal.*

This subject was considered by the Technological Research Sub-Committee whose report on the subject was adopted.

"The Sub-Committee considered this subject along with the letters received from Messrs. Vonesch and Stones and the East India Cotton Association. After a long discussion, the Sub-Committee felt that the matter was one which required to be fully investigated. It was suggested that, for purposes of comparison, the investigations should be conducted on the basis of the normal price of cloth manufactured from waste and the normal price of hessian, as the cost worked out under war conditions did not provide a proper basis for comparison. It was agreed that investigations should be undertaken at the Laboratory to ascertain the extent of penetration of moisture, dust, etc., into cotton bagging, the effect of the sizing of cotton cloth on cotton, the liability of cotton bagging to insect attacks and the water absorbing capacity of cloth bagging compared with jute. The view was expressed that, even if under normal conditions the use of cotton cloth for bagging cotton bales might not be an economic proposition against hessian, there might be possibilities of manufacturing baling cloth for export to America."

SUBJECT 60.—*Scheme for co-ordination of Black-headed Cricket in Sind and Baluchistan—Letter from Revenue Commissioner, Baluchistan.*

The Committee accepted the recommendation of the Agricultural Research Sub-Committee that the Government of India should be urged to restore the retrenched staff in Baluchistan.

SUBJECT 61.—*Scheme for the better marketing of 1027 A. L. F. cotton of Baroda State —Proposed extension of—.*

This scheme was sanctioned in January 1938 for three years, subject to the condition that it should be reviewed annually and continued only if satisfactory. It started work on 1st February 1938. The object of the scheme is to help the growers of *1027 A. L. F.* cotton to realise better prices for their produce. This is sought to be achieved by the establishment of marketing centres to deal with the cotton produced by groups of growers and Co-operative Societies in the Baroda State. The Indian Central Cotton Committee accepted the recommendation of the Agricultural Research Sub-Committee for the extension of the scheme for a further period of two years.

SUBJECT 62.—*Report on International Congress of Genetics by Mr. K. Ramiah.*

The Agricultural Research Sub-Committee which considered this subject reported as follows :—

> " The Sub-Committee recommended that Mr. Ramiah's report be approved and that subject to the approval of the Government of India he be re-imbursed the sum of Rs. 270, by which amount he was out of pocket as a result of his deputation."

The recommendation of the Sub-Committee was accepted.

SUBJECT 63.—*Plant Puller Propaganda Scheme in Baroda State—Enforcement of legislation for uprooting cotton stalks.*

The Committee noted with satisfaction the letter from the Commissioner of Agriculture, Baroda, intimating the steps proposed to be taken by the Baroda Government for the uprooting of cotton stalks.

SUBJECT 64.—*Report on work done at the Conference of Technological Assistants.*

The Technological Research Sub-Committee which considered this subject reported as follows :—

> " The Sub-Committee expressed the view that the proceedings revealed a tendency on the part of some Technological Assistants to draw conclusions from inadequate data, and recommended that, in future, before putting up subjects for discussion at the Conference, the Technological Assistants should first discuss them with the Deputy Directors of Agriculture or the officer under whom they are working in the province.
>
> The proceedings of the Conference were recorded."

The Report of the Technological Research Sub-Committee was approved.

SUBJECT 65.—*Training of outside students at the Technological Laboratory—Proposal to admit more students.*

The proposal of the Director, Technological Laboratory, that the maximum number of outside students for admission in any year for training at the Technological Laboratory in Cotton Technology should be increased from two to four was approved.

SUBJECT 66.—*Comparison of mill and Laboratory tests on the same cottons.*

The Technological Research Sub-Committee reported as follows on this subject :—

" The Sub-Committee considered the report on the comparison of the results of mill tests and laboratory tests on the same cottons. The object of these tests is to determine what allowance should be made for tests carried out at the Laboratory when compared with similar tests conducted by mills. The report showed enormous variations in the results obtained at the different mills on the same cotton. It was explained that this might be due to variations in the methods used or lack of standard machinery. The Sub-Committee, however, felt that, before drawing definite conclusions, it would be better to carry out such tests on a larger number of cottons. Great importance was attached to these tests as it was thought that they might eventually help in impressing upon the mills the need for standardising their tests, equipment and machinery. It was recommended that only pure cottons should be used for these tests and that, to start with, it would be enough if tests were carried out on *Broach, 289F, 4F, Navsari, Jayawant* and *Oomras*. It was agreed that, instead of buying a bale of each cotton and sending a 20 lb. sample out of it to mills for tests, the latter should be asked to send a 20 lb. sample to the Technological Laboratory when they tested their own cotton. It was further agreed that the mills selected for this purpose should be such as have machinery and equipment as near as possible to those of the Laboratory.

The Sub-Committee agreed that, in the meantime, the publication of the results so far obtained should be withheld and that the Millowners' Association, Bombay, who had already been supplied with a copy, should be informed that the results were not yet conclusive and that further tests would be carried out."

The Report of the Technological Research Sub-Committee was adopted.

SUBJECT 67.—*Scheme for Interspecific hybridisation in cottons at Surat—Proposed expansion of—.*

The Agricultural Research Sub-Committee's report on this subject was as follows :—

" The Sub-Committee approved of the proposed expansion of the scheme. The question of obtaining a better man for cytological work was raised and the Sub-Committee recommended a higher scale of pay for the Cytological Assistant. In view of the fact that Mr. Amin would be in charge of the scheme it was decided to give him a higher start, *viz.*, Rs. 170 in the scale of Rs. 160—10—260 for the additional work and responsibilities involved. It was agreed that the Agricultural Overseer and Sub-Overseer were required, and that the expenditure on fencing amounting to Rs. 400 was unavoidable."

The Report of the Sub-Committee was approved.

Before the proceedings terminated, *the Director of Agriculture, Madras*, expressed his thanks to members of the Committee for coming to Coimbatore for the meeting. He also thanked the Millowners and District Agricultural Associations and the staff of the Institute for the help rendered by them in making the occasion a success.

The Vice-President on behalf of the members thanked the Madras Government and the members of the Madras Agricultural Department for their kindness and hospitality and for the trouble taken by them in connection with the meetings.

The meeting concluded with a vote of thanks to the Chair.

D. N. Mahta.

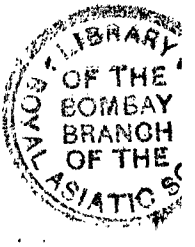
RESOLUTIONS.

"That Sir Chunilal V. Mehta be re-elected Vice-President of the Indian Central Cotton Committee for the year 1940-41."

Standing Finance Sub-Committee.

"That the following members be appointed to form the Standing Finance Sub-Committee for the financial year 1940-41 :—

The Vice-President (*Chairman*),
The President (*ex-officio*),
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,
Mr. J. Vonesch,
Mr. M. S. Durutti,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. W. J. Jenkins."



Local Sub-Committee.

"That the following members be appointed to form the Local Sub-Committee :—

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. Kasturbhai Lalbhai,
Mr. J. Vonesch,
Mr. W. J. Jenkins,
Mr. M. S. Durutti,
Rao Bahadur Sir Madhaorao Desphande,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. A. P. Darlow,
Mr. Chandulal P. Parikh."

Agricultural Research Sub-Committee.

"That the following be appointed to constitute the Agricultural Research Sub-Committee :—

I. The President (*ex-officio*),
II. The Vice-President (*ex-officio*),
III. The Co-operative Banking Representative (*ex-officio*),

RESOLUTIONS—(*contd.*)

IV. *Cotton Growers' Representatives :—*

Sir William Roberts,
Mr. Roger Thomas,
Sardar Rao Bahadur Bhimbhai R. Naik,
Rao Bahadur Sir Madhaorao Deshpande,

V. *Cotton Trade Representatives :—*

Sir Purshotamdas Thakurdas,
Mr. Kasturbhai Lalbhai,
Mr. Chandulal P. Parikh,
Mr. J. Vonesch,
Mr. M. S. Durutti,
Mr. Chellaram Shewaram,

VI. *Agricultural Officers :—*

The Agricultural Commissioner with the Government of India (*ex-officio*),
The Director, Institute of Plant Industry, Indore (*ex-officio*),
Mr. H. R. Stewart,
Mr. W. J. Jenkins,
Mr. P. H. Rama Reddi,
Mr. R. G. Allan,
Mr. Vishnu Sahay,
Mr. J. C. McDougall,
Rao Saheb K. I. Thadani,
Mr. Nizam-ud Din Hyder,
Mr. T. G. Rama Iyer,
Sardar D. K. Jadhav,

VII. *Additional members :—*

Dewan Bahadur Sir T. Vijayaraghavacharya,
Rao Bahadur V. Ramanatha Ayyar,
Dr. B. L. Sethi,
Rai Saheb Kalidas Sawhney,
Mr. K. Ramiah,
Mr. Mohammad Afzal,
Prof. R. H. Dastur,

VIII. The Secretary."

RESOLUTIONS—(*contd.*)

Technological Research Sub-Committee.

"That the following be appointed to form the Technological Research Sub-Committee :—

The President (*ex-officio*),

The Vice-President (*ex-officio*),

The Agricultural Commissioner with the Government of India (*ex-officio*),

Sir Purshotamdas Thakurdas,

Mr. Kasturbhai Lalbhai,

Dewan Bahadur Sir T. Vijayaraghavacharya,

Sir William Roberts,

Lala Shri Ram,

Mr. S. D. Saklatvala,

Mr. W. J. Jenkins,

Mr. J. Vonesch,

Mr. M. S. Durutti,

Mr. H. R. Stewart,

Mr. P. H. Rama Reddi,

Mr. Chandulal P. Parikh,

Rao Saheb P. V. Deshmukh,

Captain S. R. Pocock,

Mr. E. F. G. Gilmore,

Dr. Nazir Ahmad,

Dr. B. L. Sethi,

Rao Bahadur V. Ramanatha Ayyar,

Rai Saheb Kalidas Sawhney,

Mr. Y. G. Deshpande,

Cotton Botanist in Charge—Scheme for production of long staple cotton in Sind.

Two representatives each of the Bombay Millowners' Association, Ahmedabad Millowners' Association, the East India Cotton Association and the Karachi Cotton Association, Ltd."

Cotton Forecast Improvement Sub-Committee.

"That the Cotton Forecast Improvement Sub-Committee be composed of the following :—

The President (*Chairman*),

The Vice-President,

The Agricultural Commissioner with the Government of India (*ex-officio*),

RESOLUTIONS—(*contd.*)

Cotton Forecast Improvement Sub-Committee—(contd.)

The Director General of Commercial Intelligence and Statistics,

Dr. T. E. Gregory,

The Director of Agriculture, Bombay Province,

Do. do. Madras,

Do. do. Punjab,

Do. do. United Provinces,

Do. do. Central Provinces and Berar,

Do. do. Sind,

Do. do. H. E. H. the Nizam's Government,

The Commissioner of Agriculture, Baroda,

The Director of Statistics, H. E. H. the Nizam's Government,

The Director of Land Records, Central Provinces and Berar,

The Deputy Director of Statistics,

The Statistical Officer to the Director of Industries, Madras,

Mr. J. Vonesch, and

Mr. M. S. Durutti. "

Wider Markets Sub-Committee.

"That the Wider Markets Sub-Committee be composed of the following :—

The President,

The Vice-President,

Sir Purshotamdas Thakurdas,

Dr. T. E. Gregory,

Dewan Bahadur Sir T. Vijayaraghavacharya,

Dr. W. Burns,

Mr. S. D. Saklatvala,

Mr. Kasturbhai Lalbhai,

Sir William Roberts,

Mr. H. R. Stewart,

RESOLUTIONS—(*contd.*)

Wider Markets Sub-Committee—(contd.)

Mr. W. J. Jenkins,

Mr. P. H. Rama Reddi,

Mr. J. C. McDougall,

Mr. Vishnu Sahay,

Mr. V. Ramdas Pantulu,

Mr. J. Vonesch,

Rao Saheb K. I. Thadani,

Mr. Nizam-ud Din Hyder,

Mr. M. S. Durutti,

Mr. Chandulal P. Parikh,

Sardar Rao Bahadur Bhimbhai R. Naik,

Rao Saheb P. V. Deshmukh,

Seth Isserdas Varindmal,

Dr. Nazir Ahmad,

Mr. R. G. Saraiya,

Rai Saheb Kalidas Sawhney,

Mr. Y. G. Deshpande."

Cotton Ginning and Pressing Factories Sub-Committee.

That the following members be appointed to form the Cotton Ginning and Pressing Factories Sub-Committee :—

(*a*) The Vice-President (*ex-officio*),

(*b*) *Five trade members resident in Bombay :—*

Sir Purshotamdas Thakurdas,

Mr. S. D. Saklatvala,

Mr. Kasturbhai Lalbhai,

Mr. M. S. Durutti,

Mr. J. Vonesch,

(*c*) *One trade member from each of the following provinces :—*

Madras ..	..Mr. G. A. Bambridge,
Punjab ..	..Sir William Roberts,
United Provinces	..Captain S. R. Pocock,
Central Provinces and Berar	Rao Saheb P. V. Deshmukh,

RESOLUTIONS—(*concld.*)

Cotton Ginning and Pressing Factories Sub-Committee—(contd.)

(*d*) The Co-operative Banking Representative (*ex-officio*),

(*e*) One representative of the Agricultural Department, Mr. W. J. Jenkins,

(*f*) Additional member—Mr. Chellaram Shewaram."

Report of the Standing Finance Sub-Committee.

"That the Report of the Standing Finance Sub-Committee be adopted and that the budget proposals for 1940-41 be approved and the Sub-Committee authorised to include in the budget necessary provision for the schemes passed at this meeting of the Committee before submitting it to the Government of India."

Seed Distribution in Madras Province.

"The Indian Central Cotton Committee observes that in spite of the availability of improved strains of cotton suited for most of the cotton growing tracts in the Madras Presidency, the area yet to be covered by these strains remains very large. This seems to be due to want of adequate funds and suitable organisation to undertake the work of seed distribution. The Committee, therefore, recommends to the Madras Government that steps be taken to provide adequate funds and to make all facilities available to the Agricultural Department and non-official agencies like Rural Co-operative Societies for the production and distribution of large quantities of improved pure strains in order that the whole cotton growing area may be covered by them as quickly as possible."

Report of the Technological Research Sub-Committee.

"That the Report of the Technological Research Sub-Committee, as amended, be adopted."

Report of the Cotton Forecast Improvement Sub-Committee.

"That the Report of the Cotton Forecast Improvement Sub-Committee be adopted."

Report of the Agricultural Research Sub-Committee.

"That the Report of the Agricultural Research Sub-Committee, as amended, be adopted."

APPENDIX I.

SUBJECT 5.—*Report of the Standing Finance Sub-Committee :*

Three meetings of the Sub-Committee were held since the meeting of the Committee in August 1939. Mr. W. J. Jenkins having proceeded on leave out of India, his place on the Sub-Committee has been taken by Mr. B. S. Patel who has succeeded him on the Committee.

2. The financial aspect of the new schemes and extensions of old schemes, provisionally sanctioned by the full Committee at its meeting held in August 1939, was examined by the Standing Finance Sub-Committee before submission of the proposals to the Government of India for sanction. The Sub-Committee approved of the schemes as follows :—

A. NEW RESEARCH SCHEMES.

(i) *Scheme for Improvement and Development of Cotton in Cutch State.*

The Sub-Committee approved of the scheme at a net cost to the Committee of Rs. 40,790, for a period of five years subject to the conditions laid down by the Committee being accepted by the Cutch Darbar.

(ii) *Proposal for co-ordination of research work on Black-headed Cricket in Sind and Baluchistan.*

The scheme was approved at a net estimated expenditure to the Committee of Rs. 3,920 during the two years 1940-41 and 1941-42, *i.e.*, Rs. 1,960 per year.

(iii) *Scheme for improvement of cotton crop in the Kaira District, North Gujerat.*

The Scheme, as provisionally sanctioned by the Committee, was approved. The proposals received from the Government of Bombay involved an estimated expenditure of Rs. 12,800 spread over a period of five years. It was noted, however, that an additional amount of Rs. 1,080, *i.e.*, Rs. 700 for leave salary and Rs. 380 for Provident Fund, would be required if the staff engaged are not Government servants.

B. EXTENSIONS OF RESEARCH SCHEMES.

(i) *Punjab Botanical Scheme.*

The scheme, as provisionally sanctioned by the Committee, was approved at a total cost to the Committee of Rs. 20,860 during the period from 1st April 1940 to 28th February 1941.

(ii) *Punjab Physiological (Cotton Failure Research) Scheme.*

The scheme, as provisionally sanctioned by the Committee, was approved, at a total estimated cost to the Committee of Rs. 1,39,386 spread over a period of three years, with effect from the 15th March 1940.

(iii) *Scheme for Cotton Jassid Investigation in the Punjab.*

The Sub-Committee approved of the scheme as provisionally sanctioned by the full Committee. It was noted that, in view of the restricted scope of the investigations recommended by the Committee, the Director of Agriculture, Punjab, had intimated that a total saving of Rs. 450, *i.e.*, Rs. 100 per annum under contingencies and Rs. 50 per annum under travelling allowance, would be possible, thus reducing the total estimated cost to Rs. 8,448 (Rs. 8,898 *minus* Rs. 450).

(iv) *Bengal Comilla Cotton Scheme.*

The extension of the scheme, provisionally sanctioned by the full Committee, was approved at an estimated cost to the Committee of Rs. 14,615.

(v) *Hyderabad Bollworm Clean-up Scheme.*

The extension proposals, as sanctioned by the full Committee, were approved at an estimated cost to the Committee of Rs. 29,418 spread over a period of 18 months from the 1st October 1939 to the 31st March 1941.

(vi) *Plant Puller Propaganda Scheme in Baroda State.*

The proposals for the extension of the above scheme for a period of two years from the 1st January 1940 to the 31st December 1941, as provisionally sanctioned by the full Committee, were approved at a total cost of Rs. 30,700, the Committee's share being Rs. 14,100 and the balance being met by the Baroda Government.

C. EXTENSION OF SEED DISTRIBUTION SCHEME.

Surat Scheme.

The extension of the scheme for a period of three years from the 1st April 1940, as provisionally sanctioned by the full Committee, was approved at a total estimated cost of Rs. 38,775, the Committee's share being Rs. 17,044 on account of 75% of the cost of staff and that of the Bombay Government Rs. 21,731 on account of 25% of the cost of staff *plus* incidental charges.

D. MISCELLANEOUS.

(i) *Deccan Canals (Banilla) Scheme—Revised proposals for.—*

The scheme was approved at an estimated expenditure of Rs. 6,000 spread over a period of five years, the estimated cost to the Committee being Rs. 1,312-8-0, on account of 75% of the cost of staff, the remaining expenditure to be borne by the Provincial Government.

(ii) *Cotton Wilt Breeding Schemes in Bombay Province—Proposal for the appointment of an assistant for affording relief to Dr. B. N. Uppal, Plant Pathologist to the Government of Bombay.*

The proposal, as submitted by the Director of Agriculture, Bombay, and as provisionally sanctioned by the full Committee, involving an estimated expenditure of Rs. 1,890, spread over a period of five years, to be met from the savings under (1) The Cotton Wilt Breeding Scheme, Poona, and (2) The Scheme for Breeding Wilt Resistant Cottons for Surat Area was approved. As these two schemes would terminate on the 31st March and 31st October 1942, respectively, it was decided that the contribution of the Committee, on the basis of the figures furnished by the Director of Agriculture, Bombay, should be limited to a sum not exceeding Rs. 1,131 up to the 31st October 1942.

3. In order that there might be no break in the continuity of work, the Sub-Committee decided that the appointment of the Technological Assistant, Surat, should be extended up to 31st March 1940, pending consideration of the question of further extension by the Indian Central Cotton Committee.

4. Under Rule 9(1) of the Indian Cotton Cess Rules, the Sub-Committee sanctioned the proposal of the Madras Government for the appointment of Mr. P. N. Krishna Ayyar as Parasitologist in the scheme for investigating the possibilities of control of Cotton Stem Weevil of South India on Rs. 260 p.m. in the scale of Rs. 200-30/2-260-40/2-480.

5. The Sub-Committee examined the financial aspect of the proposal for the purchase of a Pilot Plant for the manufacture of chemical cotton in India. The scheme, as provisionally sanctioned by the Committee, was approved, and sanction of the Central Government to incur expenditure on the experiment during the current financial year obtained. At a subsequent meeting, the Sub-Committee decided that the views of the Committee, together with the specifications and estimates of the plant received, should be passed on to the Indian Trade Commissioner in New York, who should be requested to get into touch with the consultants, Messrs. Lockwood Greene, Engineers, and that confirmation of the arrangements for joint expenditure and working should be obtained from the Government of Bombay. Action was taken accordingly, and the reply of the Trade Commissioner, New York, stating that Messrs. Lockwood Greene, Engineers, were prepared to analyse and report on the proposals on the pilot plant for chemical cotton, and that their price for this report would be $500 payable in New York funds was considered by the Sub-Committee, and it was decided that further action should be deferred until confirmation from the Government of Bombay regarding joint expenditure on the report was received.

6. The Sub-Committee accepted the offer of the Marwari Chamber of Commerce, Calcutta, to act as the Committee's agents at Calcutta for drawing samples of yarn or cloth from bulk to be sent for testing at the Testing House, and decided

that the same fee of Rs. 4 and Rs. 6, respectively, for short and long distances, as was fixed for such work in Bombay, should be charged, the out-of-pocket expenses of the Chamber for this work being met from the fees collected.

7. The Sub-Committee sanctioned the payment of a sum of Rs. 750 annually to the Bombay Chamber of Commerce as the Committee's share of the expenditure involved for the collection by the Chamber of the statistics of imports of cotton by road into Bombay.

8. The Sub-Committee accepted the recommendation of the Bombay Port Trust that the existing contract between Messrs. Cooper Landing Co. and the Bombay Port Trust for the transportation and landing after fumigation of American cotton, should be renewed for a further period of three years.

9. The Special Sub-Committee appointed by the Committee at its last meeting to report on the re-organisation of the Institute of Plant Industry, Indore, examined the subject and the conclusions arrived at are contained in the following extract from the Proceedings of the Standing Finance Sub-Committee held on the 22nd September 1939 :—

"*The Vice-President* said that the Special Sub-Committee, which was appointed by the Indian Central Cotton Committee at its last meeting, went into the question of the future of the Institute of Plant Industry, Indore, that morning, and he would like to take that opportunity to intimate to the Standing Finance Sub-Committee the conclusions reached by that Sub-Committee. The first point considered by the Sub-Committee was whether adequate return for the money spent by the Indian Central Cotton Committee on the Institute so far had been obtained. The opinion on this point was unanimous that the results obtained had not been commensurate with the amount of money spent. The next point considered was whether fundamental research of the kind done at Indore was a necessary part of the work of the Indian Central Cotton Committee and whether Indore was a suitable place for research on cotton and, if so, whether the work could not be carried out on more economical lines than had been the case in the past. In this connection, the opinion of the expert members was that a Central Research Institute for fundamental work was desirable. Such fundamental work included genetics and plant physiology. Cotton genetics was linked up with the work of plant breeders wherever they happened to be, and the latter required a lead and guidance in this connection to tackle the various problems met with in their work. Genetics constituted the chief item of work at Indore, and the question put to the expert members was whether, if genetical work was not done, the work of the Indian Central Cotton Committee would be incomplete or handicapped in any way. The reply was definite that if fundamental research on genetics were discontinued, the work of the Committee would be incomplete to that extent. It was pointed out that plant breeding in India had reached a stage when fundamental genetical work was necessary to help the plant breeder in determining the characters of the plant, etc. The question then arose as to whether Indore was a suitable location for work of that kind, or whether it was desirable that it should be done elsewhere. There was a long discussion on this point during which it was pointed out that some very good work on genetics had already been done during the time of Mr. Hutchinson and that there was no reason, given the necessary conditions, why similar work should not be produced in the future. The general opinion of the Sub-Committee was that, although Coimbatore was perhaps in some ways a more suitable place, the handicaps imposed by wilt and frost, and the inability of Indore to successfully raise all the types of cotton grown in India were at present not sufficient reasons to warrant the location of such work to be shifted elsewhere. The Sub-Committee was, however, unanimously of the opinion that fundamental research, *i.e.*, genetics and plant physiology, should be separated from the plant breeding extension and other work at the Institute and brought under the direct control of the Committee. The Geneticist should confine himself strictly to genetics and officially should have nothing to do with the other part of the work. He would be a servant of the Committee, directly responsible to it as any other officer in charge of the Committee's schemes. The Committee should finance the entire work of the Genetics Section which, it was roughly estimated, would cost round about Rs. 30,000. The programme of work should be confined to genetical investigations, methods of sampling, field plot technique, statistical investigations in relation to genetics, etc. He would be housed in the Institute by the courtesy of the Board of Governors, and the necessary land required for his work would be placed at his disposal by arrangement with the Board.

The Sub-Committee was unanimously of the opinion that the Committee should make a grant of Rs. 30,000 for plant breeding and other work of the Institute so that the total cost to the Committee for work on genetics and other work would not exceed Rs. 60,000 per annum. With regard to the representation of the Committee on the Board of Governors, it was decided that this should be on the existing lines, *i.e.*, in proportion to the contribution made by the Committee. The contribution from the States was estimated at Rs. 40,000 per annum while the Committee's contribution would be in the neighbourhood of Rs. 30,000 excluding the contribution for genetical work which would not, however, be taken into account for purposes of representation. The usual plant breeding work on cotton and other crops as well as seed multiplication, distribution and demonstration work and such agronomical and chemistry work which might be considered desirable to continue for the benefit of the States would be controlled by the Board of Governors and financed by the contributions made by the States and the Indian Central Cotton Committee. Mr. Low had raised a question as to whether, under the present Memorandum and Articles of Association, the arrangement proposed by the Sub-Committee would be permissible, and in this connection it was decided that the opinion of the Committee's Solicitors should be sought. The next meeting of the Board of Governors had been fixed for the 28th October, but, in view of the changes proposed by the Sub-Committee, it was decided that the meeting should be postponed to give time to Mr. Low to discuss the matter with the Resident and Rai Bahadur Kanungo and also to consult Mr. Ramiah on his return from England regarding the working of the proposed changes and the budget provision that would be required for the genetical work. Mr. Low had been requested to put up budget estimates for the genetical work and for the other work and he (the Vice-President) hoped that a suitable arrangement to give effect to the recommendations of the Sub-Committee would be arrived at by discussion with the authorities concerned. The Resident at the last meeting of the Board of Governors wanted definitely to know how much money the Committee would contribute to the Institute and this information had now been fully provided."

The decisions of the Special Sub-Committee were confirmed by the Standing Finance Sub-Committee.

The Sub-Committee at a subsequent meeting sanctioned an additional grant of Rs. 5,590 for the Cotton Genetics Research work thus raising the total grant for it to Rs. 35,590. The budgets for the Institute and for the Cotton Genetics Research Scheme, Indore, form separate items on the agenda.

10. The Sub-Committee renewed the arrangements with the Imperial Bank of India to obtain an overdraft on current account for a further period of six months from 1st January 1940 to the extent of a lakh of rupees, when required, against security of Government Paper lodged with the Bank.

11. The prices of machinery having risen due to the war, the Sub-Committee sanctioned a supplementary non-recurring grant of Rs. 6,000 for the purchase of ginning machinery, thus raising the capital cost of the scheme sanctioned by the Committee for improving the ginning of Indian cottons to Rs. 30,500.

12. The Sub-Committee nominated Mr. H. Sitarama Reddy to represent the Committee on the Imperial Council of Agricultural Research for three years or during the period of his membership of the Committee, whichever is less.

13. In connection with the early morning broadcast of cotton prices as the Committee did not accept the proposal of the Controller of Broadcasting that in addition to the charge of Rs. 5,000 for the installation of receiving sets at selected cotton markets, the Committee should also bear the maintenance charges of the sets estimated at Rs. 785-12-0 p.m., the Sub-Committee considered alternative proposals forwarded by the President, one of which implied local arrangements for the maintenance of the sets and the other a reduction in the number of receivers and decided that as the Government of India were not prepared to accept the Committee's recommendation, *viz.*, that the Brodcasting Department should itself be responsible for the maintenance of the receiving sets and that the Committee's liability in connection with the experiment should be limited to Rs. 5,000, there was no alternative but to drop the whole scheme.

14. On a reference from Messrs. Narandas Rajaram & Co. in connection with the discontinuance, from the 16th September 1939, of the broadcast of cotton prices at 1 p.m. by All-India Radio and its adverse effect on the cultivator owing to wide fluctuations in prices during the period of war, the Government of India were requested to restore the broadcast at 1 p.m. Their reply, stating that, after careful consideration, the broadcast of cotton prices at 1 p.m. had been discontinued for the present, was considered by the Sub-Committee and it was decided that the Vice-President should express to the Government of India the disappointment of the Committee at the action taken and request them to reconsider the matter. Action has been taken accordingly.

15. The Sub-Committee at its meeting held in April 1939 considered the question of the recovery of the balance of the loan amounting to Rs. 6,966-2-0 taken by the Hubli Co-operative Cotton Sale Society and decided that the papers on the subject should be forwarded to the Registrar, Co-operative Societies, and Director of Rural Development with a view to arriving at some arrangement for the repayment of the amount outstanding. At its meeting held in November 1939, the Sub-Committee considered the reply of the Registrar of Co-operative Societies and Director of Rural Development stating that even the net profit amounting to Rs. 1,118-8-1 made by the Society in 1935 was not available for payment and that he had advised the Society to see that the future profits in its seed business were immediately appropriated towards repayment of the Committee's dues and decided that the balance of the loan should be the first charge on any profits of the Society (not necessarily from the seed business alone) and that, in the meantime, no financial assistance of any description should be given to it by the Committee.

16. The scheme for Cotton Breeding Investigations for the production of long staple cottons for cultivation in Sind was sanctioned in March 1939 subject to examination, by the Agricultural Research Sub-Committee, of the details of Rs. 15,000 under 'Non-recurring contingencies.' The Government of India in according sanction to the scheme desired that, in addition to examination of the above item, the details in respect of recurring contingencies estimated at Rs. 9,600 per annum should also be examined. The Committee, however, at its meeting in August last decided that the details should be examined by the Standing Finance Sub-Committee. After careful consideration, the Sub-Committee sanctioned Rs. 7,800 and Rs. 7,150 under "A—Non-recurring Contingencies" and "B—Recurring Contingencies", respectively. It was further decided that new purchases of apparatus etc. should only be made if the required articles, in good working order, were not available from schemes that have closed down. It was noted that most of the chemical apparatus could be transferred from the Pempheres Scheme at Coimbatore, recently terminated. The Sub-Committee did not consider that elaborate Meteorological Equipment was necessary for the successful working of a plant breeding scheme and expressed the view that Stevenson's Screens with accessories, should meet the requirements in this connection.

17. On the recommendation of the Selection Sub-Committee appointed by the Standing Finance Sub-Committee to select a Cotton Botanist to hold charge of the Scheme for Cotton Breeding Investigations for production of long staple cottons for cultivation in Sind, the Sub-Committee approved of the appointment of Dr. R. Sankaran as Cotton Botanist on a starting pay of Rs. 400 per mensem in the scale of Rs. 300-20-420-E. B.-30-660-E. B.-40-900 with a probationary period of six months.

18. The Sub-Committee sanctioned an extension of the Punjab Cotton Marketing Survey Scheme by two months from the 15th December 1939 to enable the final report on the scheme to be brought up to date by the inclusion in the recorded facts of changes brought about by the war, the estimated cost on this account to be met from savings in the sanctioned grant.

19. 'A Balance Sheet of the audited accounts of the Committee's funds and the Provident Fund as at 31st October 1939, as well as the Financial Statement as at 30th November 1939, are attached* for information. Rs. 7,87,275-11-10 of the Committee's funds are invested in Government paper, Rs. 4,19,278-2-0 in long-dated Corporation Bonds and Rs. 7,20,128-14-6 in Treasury Bills. The market value of the Committee's securities, as will be seen from the financial statement, has appreciated by Rs. 48,913-11-5. The Sub-Committee on the 16th December decided that the 3½% Indian Sterling Bearer Bonds (interminable) of the face value of £20,000 held by the Committee should be sold as soon as possible, and the proceeds invested in short-dated securities in consultation with the Vice-President.

20. The Sub-Committee approved of the revised method of preparation of Budget proposed by the Secretary, and suggested that, in addition to other

* Not printed.

information, the Budget should indicate the total amount of expenditure incurred under (1) Agricultural Research Schemes, (2) Seed Distribution and Extension Schemes, (3) Marketing Schemes and (4) Technological Research.

The Budget for 1940-41 as approved by the Sub-Committee is attached.* The estimates of receipts from the cotton cess have been shown at Rs. 4,80,000 against Rs. 6,50,000 in 1939-40. Interest has been reduced from Rs. 92,320 to Rs. 75,150 as some of the securities will have to be sold to meet current expenditure. The Budget will need revision when final decisions are arrived at on some of the proposals under consideration at this meeting of the Committee. The profits that might be realised on sale of securities have not been taken into account in arriving at the above estimates.

21. Revised Estimates of Receipts and Expenditure for the current financial year as approved by the Sub-Committee are attached.* The estimates of receipts from the cess and interest have been reduced from Rs. 6,50,000 and Rs. 92,320 to Rs. 6,32,460 and Rs. 83,180 respectively. The estimate of miscellaneous receipts has been increased to Rs. 8,000. The total expenditure for the current year is now estimated at Rs. 10,41,030 against the sanctioned budget of Rs. 10,78,457. The closing balance (excluding recoverable loan amounting to Rs. 6,966-2-0) at the end of the current year will stand at Rs. 17,08,647-3-10 compared with Rs. 18,89,856-13-8 at the end of the last financial year.

22. Revised Estimates of the Technological Laboratory for the current financial year, as approved by the Sub-Committee, are attached.* The estimated deficits of Rs. 146 and Rs. 444 under Working Expenses and Capital Grant respectively were sanctioned, and the Revised Estimates now stand at Rs. 1,70,769. The Sub-Committee approved of the revised method of preparation of Budget proposed by the Secretary.

23. The Sub-Committee recommended that Messrs. S. B. Billimoria & Co. should be re-appointed as the Committee's Auditors for the year 1940-41 and that a fee of Rs. 750 should be paid to them for this work.

24. On the recommendation of the Director, Technological Laboratory, the Sub-Committee sanctioned the creation of two new posts of Junior Testers for the Technological Laboratory, raising the number of Junior Testers from 15 to 17, which is in proportion to the increase in work reported by the Director.

25. The Local Sub-Committee in November last considered the question of the maintenance of an adequate supply of iron hoops in India during the present emergency. In view of the fact that hoops are not manufactured in India, the Sub-Committee viewed with concern the reported shortage of this essential article required for fastening pressed cotton bales. The opinion expressed was that unless special steps were taken to ensure imports from the United Kingdom, Belgium or the U.S.A., which are the chief supplying countries, the pressing factories would be faced with a serious situation and the marketing of the cotton crop would be hampered. After careful consideration of the matter, the Local Sub-Committee decided that the Government of India should be requested urgently to examine the question with a view to securing, in consultation with His Majesty's Government in the United Kingdom, the maintenance of an adequate supply of this essential article during the present emergency and to facilitating its import by the grant of Priority Certificates. The Government of India were addressed accordingly, and at its meeting on the 16th December, the Standing Finance Sub-Committee considered a telegram received from the War Supply Board, and decided that they should be informed that the estimated minimum essential requirements of hoops for the baling of cotton only during the current season was about 22,000 tons. The Sub-Committee further decided that the Government of India should be informed that, in its opinion, the Indian Central Cotton Committee should be the permit-holder for imports of hoops, as it was felt that this arrangement would prevent profiteering and enable everyone concerned to have a reasonable share of the imports. The view of the Sub-Committee was that, in the event of its recommendation being accepted, some firm or firms should be appointed as distributing agents.

26. In pursuance of the resolution passed by the Committee at its meeting held in March 1939, the Sub-Committee sanctioned the creation of a post of Technical Assistant in the Secretary's office in the Class II scale of Rs. 170-10-250-E.B.-15-400-E.B.-20-500 of the Bombay Agricultural Service, the starting pay to be fixed according to qualifications. It was decided that the post should be advertised in the usual manner.

* Not printed.

APPENDIX II.

SUBJECT 6—*Report of the Local Sub-Committee.*

Secretary's Note.

Two meetings of the Sub-Committee were held since the last meeting of the Indian Central Cotton Committee. Mr. B. S. Patel, Officiating Director of Agriculture, Bombay, was appointed member of the Sub-Committee during the absence on leave of Mr. W. J. Jenkins. On his re-nomination as member of the Indian Central Cotton Committee, Rao Bahadur Sir Madhaorao Deshpande was re-appointed on the Sub-Committee for the remaining period of the current financial year. Mr. W. S. Priestley having resigned, his place on the Sub-Committee was taken by Mr. A. P. Darlow, who succeeded him on the Committee.

2. The Sub-Committee examined the question of the proposed allocation of quotas for exports of Indian cotton to neutral countries and the effect it would have on the present Indian cotton position. The view of the Sub-Committee was that the proposed measure was likely to further restrict the off-take of Indian cotton and that, therefore, suitable steps to counteract the effect should be devised. During discussion, it was observed that, while arrangements had been made whereby the United Kingdom would take cotton from the U.S.A. and Egypt, no parallel action appeared to have been taken for the purchase of Indian cotton which was cheap and, therefore, more suitable for war purposes. It was decided that the Government of India should be requested to examine the possibility of increased takings of Indian cotton by the United Kingdom during the present emergency. The Government of India have accordingly been requested to take up the matter with His Majesty's Government in the United Kingdom at an early date.

3. The Sub-Committee examined the question of the maintenance of an adequate supply of iron hoops in India during the present emergency. In view of the fact that hoops at present are not manufactured in India, the Sub-Committee viewed with concern the reported shortage of this essential article required for fastening pressed cotton bales, and felt that, unless special steps were taken to ensure imports from the United Kingdom, Belgium or the U.S.A., which are the chief supplying countries, the pressing factories would be faced with a serious situation, and the marketing of cotton would be seriously hampered. After careful consideration, the Sub-Committee decided that the Government of India should be requested urgently to examine the question with a view to securing, in consultation with His Majesty's Government in the United Kingdom, the maintenance of an adequate supply of this essential article during the present emergency, and to facilitating its import by the grant of Priority Certificates. The Government of India were addressed accordingly, and, in reply to an enquiry from them, they were informed that the minimum annual requirement of hoops for cotton alone was 22,000 tons. In this connection, it may be added that, in the opinion of the Finance Sub-Committee, the Indian Central Cotton Committee should be the permit-holder for imports of hoops, as it is felt that this arrangement would prevent profiteering and enable everyone concerned to have a reasonable share of the imports. This view was communicated to the Government of India who were also informed that, in the event of this recommendation being accepted, the Committee proposed to appoint some firm or firms as distributing agents.

4. The Sub-Committee considered a joint representation addressed by Shippers to Messrs. Mackinnon Mackenzie & Co., Secretaries of the Bombay Homeward Lines Conference, in connection with the cancellation of forward freight engagements owing to war clauses in shipping orders, and expressed the view that it was not equitable on the part of Shipping Companies to cancel forward freight engagements on the plea of war clauses in shipping orders. The Sub-Committee understood that freights had been put up with the approval of the Board of Trade, and it accordingly decided that the Government of India should be requested to intervene in the matter, as the uncertainty due to the cancellation of forward freight was needlessly hampering the movement of cotton. Action had been taken accordingly.

5. The Sub-Committee considered a representation from the Karachi Cotton Association suggesting (1) that the Standards Sub-Committee of the Committee should be an indivisible one, *i.e.*, that both Bombay and Karachi Cotton Associations should participate in the preparation of standards of both Bombay and Karachi or (2) that Regional Sub-Committees should be formed to consist (*a*) of representatives of the Karachi Cotton Association and of the Punjab and Sind growers for the

meetings at Karachi and (*b*) of representatives of the East India Cotton Association and of growers of territories served by Bombay for the meetings at Bombay. The Sub-Committee, however, felt that no case had been made out for a change in the existing procedure of representation of the two Associations on the Committee's Standards Sub-Committee, and that as the Karachi Cotton Association was not concerned with cottons dealt with in Bombay, there was no point in appointing representatives of that Association on the Standards Sub-Committee when only such cottons were dealt with.

6. The Sub-Committee recorded that, on its recommendation, the following further amendment of Rule 7 of the Indian Cotton Ginning and Pressing Factories Rules, 1925, had been notified by the Government of India :—

" 7. Every bale of cotton pressed in a cotton pressing factory shall be marked in the following manner :—

(1) The Special Mark and the Serial Number shall be in English figures and letters and shall be decipherable.

(2) The Special Mark and the Serial Number shall be punched on one or more of the hoops or stencilled on the hessian on the lashed side of the bale or may be both so punched and stencilled, provided however that, if stencilled, such Mark and Number shall not be stencilled on an end hessian, "

The amended Rule came into effect on the 1st September 1939. Indian States having legislation on the lines of the British India Cotton Ginning and Pressing Factories Act, 1925, have been requested to take steps to amend their Rules accordingly.

7. The Sub-Committee at its meeting held on the 15th March 1939 considered a letter from Mr. S. D. Saklatvala in connection with the marketing of Gaorani cotton in Hyderabad State suggesting

(1) that separate auctions in various centres should be arranged instead of one auction only for the Reserve Area as this would result in greater competition among buyers and better prices for the ryot and

(2) that day to day auctions in various markets for the sale of Reserve Area cotton should be held,

and decided that the proposals should be forwarded to the Hyderabad State. The reply from the State intimating that arrangements had been made in accordance with the suggestions of Mr. Saklatvala, except in regard to day to day auctions, which were considered impracticable, was recorded.

8. At its meeting held in January 1939, the Sub-Committee decided, in the interests of long staple cultivation in India, that a recommendation should be made to the Government of India that linters should be exempt from the cess leviable on cotton under the Indian Cotton Cess Act, 1923. The recommendation has been accepted by the Government of India, and the exemption of linters from the cess notified.

9. The Committee at its meeting in November 1938, while considering the question of the application of the Cotton Transport Act to the Punjab to stop the mixing of Punjab-American and *Desi* cotton, passed a resolution requesting the Punjab Government to examine the imports of short staple *kapas* by rail into areas growing long staple cotton and to persuade the North Western Railway not to give wagons for carriage of *kapas* without a licence from the Punjab Agricultural Department. The resolution was forwarded to the Punjab Government which replied to say that the examination of the data of imports of *kapas* by rail during each of the last three years into the various canal colonies (which are the areas growing medium and long stapled cottons) indicated that even if the North Western Railway could be persuaded not to allot wagons (and it was very probable that the Railway Administration would be strongly opposed to such a policy, as its receipts would be affected), for the transport of *kapas*, the stoppage of such imports would have no appreciable effect on the mixing problem, as the total imports of *Desi kapas* represented not more than 4 to 5 per cent. of the Punjab-American cotton produced in that area. The Sub-Committee considered the reply and decided that no further action for the present was necessary.

10. The Sub-Committee considered a representation made by the East India Cotton Association to the Bombay Fire Insurance Association requesting a reduction in the fire insurance rates, as a result of the abolition by law of rebates, and pointing

out that the increased charges would ultimately be transferred to the original producer, the grower. The representation further urged the reduction of the railway transit risk from station to station which had been raised from ½ anna per cent. subject to 5% rebate to 1½ annas without rebate, and of the coastal transit rates which had been enhanced by over 100% from July 1939. The Sub-Committee decided that the Bombay Fire Insurance Association should be addressed on general lines expressing the views of the cotton trade in the matter.

11. The Sub-Committee at its meeting in October 1937 considered the Bhopal Cotton Control Act, 1936, and, while expressing satisfaction at the action taken by the Bhopal State, observed that unless the importation of inferior cottons into the State was prohibited, the measures adopted would not be complete. This view was communicated to the State through the Government of India and the Durbar's reply stating that it was not proposed to put into force the Cotton Control Act until an adequate supply of pure seed was ensured (which it was expected would take two or three years) and that in the meantime the State would discourage the sowing of inferior cotton from the next sowing season was considered and recorded.

12. At the meeting of the Sub-Committee held in April 1939, during discussion on the subject "Control and direction of Committee's schemes in the Bombay Province" the desirability of having either the Secretary or a representative of the Committee on the Provincial Rural Development Board when the Committee's schemes were being considered was suggested. The Provincial Government were accordingly addressed in the matter, and intimation was subsequently received to the effect that Sir Purshotamdas Thakurdas had been appointed by the Provincial Government to serve on the Agriculture and Livestock Committee of the Provincial Rural Development Board on behalf of the Indian Central Cotton Committee. The Sub-Committee, however, was of the opinion that the Provincial Government should be informed that, in the interests of the schemes and in order that the Committee may be kept in touch with what was going on, it was essential that a chosen representative of the Committee should be a member of the Rural Development Board.

13. The Sub-Committee in November 1938 passed a resolution drawing attention of Government to the serious menace which the import of rayon yarn constituted to the consumption of Indian cotton and requesting them to examine the question of increasing the import duty on rayon. In September 1939, the Sub-Committee was informed by the President that the question of the duty on rayon and artificial silk had been noted for consideration in connection with the Tariff Board's report on the "Sericultural Industry Enquiry," the examination of which had already been taken in hand by the Government of India. In view of this, no further action in the matter was considered necessary for the present.

14. The Sub-Committee considered an enquiry from the Karachi Cotton Association regarding the discontinuance of the East Indian Future Delivery Contract in Liverpool beyond January 1939, and the extent to which the consumption of Indian cotton in the United Kingdom would be affected by this measure and decided that the Association should be informed, in view of the very small business done under the Contract, that the Committee did not think that any useful purpose would be served by pursuing the matter further.

15. The Wider Markets Sub-Committee at its last meeting considered a suggestion that steps should be taken for securing a reduction in the cost of carrying stocks of Indian cotton in Liverpool and decided that should the information called for from the Indian Government Trade Commissioner, London, show the cost for Indian cotton to be higher than that for American cotton, the Lancashire Indian Cotton Committee should be addressed in the matter. The information received from the High Commissioner for India, London, however, indicated that the cost of stocking for one year an equal quantity, *viz.*, 48,000 lbs., of American and Indian cotton was £78-19-4 and £67-14-3 respectively. The Sub-Committee reconsidered the matter and decided that the Liverpool Cotton Association should be informed that in view of the better packing and lower intrinsic value of Indian cotton, it was not satisfied with the existing rates of carrying stocks in Liverpool as these militated against the wider use of Indian cotton in the United Kingdom. The Liverpool Cotton Association, however, replied to say that in comparison, weight for weight, dock and town dues were identical for both American and Indian cotton and that the quay porterage charges for 50,000 lbs. gross weight were greater for Indian than for American cotton in view of the fact that 125 bales of Indian cotton had to be handled

against 100 bales of American. The Association did not consider that the question of charges militated against the greater use of Indian cotton in the United Kingdom. The reply of the Association was recorded.

16. The Sub-Committee considered the question of the inclusion of *C. 520* (in place of *A. 19*) and Punjab-American *L.S.S.* in the list of Standard Indian Cottons and decided that Punjab-American *L.S.S.* should be included in the list as recommended by the Director of Agriculture, Punjab, but that as a general policy in future no new cotton should be included amongst the Standard Indian Cottons until its production reached the figure of 50,000 bales.

17. On a report from the Director, Technological Laboratory, that the East India Cotton Association were unable to supply representative samples of *V. 434*, *Gaorani 6*, *Punjab-American 289F/K25* and *Punjab American 289F/43* for tests in connection with the trade varieties of Indian cottons, the Sub-Committee decided that until such time as *V. 434* became generally known in the market in Bombay, tests carried out at the Technological Laboratory should refer to *Verum* and not specifically to *V. 434* and that *Gaorani 6* and *289F/43* should be retained in the list of trade varieties, but that *289F/K25* should be deleted from it. As regards the inclusion of *N.T.* in the list of trade varieties of Indian cotton, the Sub-Committee decided that the Director of Agriculture, Sind, should be requested to give the quantities of production of the various strains included under this nomenclature and to state exactly what he understood by *N.T.* as commonly known in the Bombay market. The Director of Agriculture has been addressed accordingly.

18. In connection with the compilation of statistics of consumption of foreign cotton in Indian mills, the Sub-Committee approved of a draft Bill for submission of returns of consumption of imported cotton in mills in British India, and decided that before further action, the Bill should be forwarded for remarks to the Millowners' Associations of Bombay and Ahmedabad, as the member mills of these two Associations accounted for nearly 80% of the total off-take of imported cotton by Indian mills. Action was taken accordingly, and the replies received from the Associations were placed before the Local Sub-Committee at its last meeting. While the Ahmedabad Millowners' Association have expressed their general agreement with the principle of the draft Bill, the Bombay Millowners' Association are opposed to the Bill on the grounds (1) that as the required information can be had from the half-yearly statistics compiled and published by the International Cotton Federation, resort to legislation is not necessary and (2) that the proposed legislation will not be applicable to Indian States. As regards the first objection, the Sub-Committee felt that the half-yearly figures published by the International Cotton Federation, besides being collected on a voluntary basis, and, therefore, liable to error, related to the year ending 31st July, whereas the Indian cotton year was reckoned from 1st September to 31st August; further that the intention of the proposal was that the figures for foreign cotton consumption should be collected monthly as in the case of Indian cotton. With regard to the second objection, it was felt that the Indian States should be persuaded to arrange for the submission of the required information by mills situated within their limits in the same way as statistics of Indian cotton consumption are at present collected. After careful consideration of the matter, the Local Sub-Committee was not inclined to accept the contention of the Bombay Millowners' Association, and decided that the draft Bill should be submitted to the Government of India for necessary action. The Sub-Committee was further of the opinion that provision should be made in the statement to be issued under Section 5 of the draft Bill to indicate the source of the foreign cotton consumed. The Government of India have been addressed accordingly.

19. The Sub-Committee considered several complaints regarding incorrect marking of certain bales and of the presence of extraneous and foreign matter, such as pieces of jute twine, blocks of wood, stone, rags, bars of iron, iron hoops, etc., in certain cotton bales. The Sub-Committee viewed the matter with some concern and felt that every possible action should be taken to put a stop to such malpractices as they tended to spoil the reputation of Indian cotton. It was felt, however, that publicity work alone in this connection would not solve the problem, though it would have some value. The opinion of the Sub-Committee was that in all such cases the parties concerned should give the press marks and the running numbers of bales in which extraneous matter was detected. It was suggested further that when a shipper got bales of Indian cotton containing extraneous matter he should complain to the factories concerned stating that, if such practices continued, their cotton would not be purchased. After much discussion it was decided that a circular should be sent to the principal firms, the East India Cotton Association and the Millowners' Associations requesting them to intimate the numbers and press marks

of bales found to contain extraneous matter to enable these to be followed up; further that the complaint should be brought to the notice of the ginning and pressing factories, who should be asked to be more careful in future. In this connection, it was suggested that if, in any particular season, the number of complaints received against a pressing factory went beyond a certain number, say, 10, the Provincial Government concerned should be requested to consider the question of stopping the press concerned from working during that season.

The Sub-Committee also considered complaints from the Manchester Cotton Association and the International Federation of Master Cotton Spinners' and Manufacturers' Associations, Manchester, regarding extraneous matter in Indian cotton bales, and decided that the Manchester Cotton Association and the International Federation should be informed that the Committee was most anxious to see that the presence, through carelessness or otherwise, of extraneous matter in Indian cotton bales was put a stop to and that it would be grateful if information regarding press marks and running numbers of such bales were supplied with the complaints to enable the matter to be followed up. With regard to the resolution adopted by the International Cotton Committee, expressing regret that no effective measures had been taken to prevent the mixing of cotton of different staples in the ginneries and presses of India, the Sub-Committee decided that it should be pointed out to the Federation that legislation for the licensing of ginning and pressing factories with a view to checking malpractices such as watering, mixing etc., had been passed in the Provinces of Bombay and Central Provinces and Berar and that similar legislation was under contemplation in the Punjab, Madras and Sind.

20. It will be recalled that the Committee at its last meeting, while passing the resolution on the subject of subsidy on exports of American cotton, decided that the details connected with the measures suggested in the resolution should be worked out by the Local Sub-Committee and forwarded to the Government of India. The matter was accordingly referred to the Sub-Committee at its meeting on the 22nd September, together with a note on the subject by the President. It was, however, decided that, as the outbreak of war had changed the situation, further consideration of the matter should be deferred. At its meeting on the 20th November the Sub-Committee expressed the view that the position had changed and was such as called for immediate action. While, however, the matter was still under consideration, the subsidy was reduced to 1/5 cent. per lb., and, in view of the reported possibility of its complete abolition in the near future, the Sub-Committee at a subsequent meeting decided that no further action in the matter was now necessary.

APPENDIX III.

SUBJECT 11.—*Present position of Indian Cotton—Action taken by Provincial Governments and States on recommendations made by the Committee in March* 1939.

Secretary's Note.

The Indian Central Cotton Committee, at its meeting held in March last, considered the recommendations of the Special Sub-Committee appointed to examine and report on the present position of Indian cotton, and passed the attached resolutions (Enclosure I*), which, together with the report of the Sub-Committee, were forwarded to the Government of India and the Provincial Governments and States for consideration. The replies received from 12 Provincial Governments and States are attached for consideration (Enclosure II*).

A brief summary of the replies on each resolution is given below :—

Resolution No. 1 :—" This Committee is of the opinion that while satisfactory progress in the matter of replacement of short staple cotton by long and medium staple cotton has been made during the past few years, further investigations in this connection appear necessary and the process of better balancing of short and long staple cottons in India should continue. With this object, efforts should be made to obtain fresh breeding material from all possible sources. The Committee feels, however, that the advantages of the change to the cultivator should, at no stage, be overlooked and due consideration should continually be given as to what would be the most paying type of cotton for him to grow in the long run."

* Not printed.

Bombay Province.

The Provincial Government state that Cotton Breeders in the Province are already in touch with similar technicians in other Provinces, and, as a result, interchange of material is common. Advantage has also been taken of breeding material obtained from abroad. Agreeing with the view expressed in the last sentence of the resolution, the Provincial Government observe that this is the guiding principle of all scientific cotton improvement work in the Province.

Punjab.

The Provincial Government state that they have been and are still doing everything possible (1) to discover by research better cottons with longer staple than existing varieties and (2) to make available adequate quantities of seed of these improved cottons to ordinary cultivators as soon as the Agricultural Department is satisfied that any newly introduced varieties are improvements on existing types and are likely to bring the cultivators a greater return from cotton growing.

The Provincial Government, however, emphasise that the Punjab must still continue to be a producer of short staple cottons to a considerable extent as :—

(*i*) there are parts of the province, notably the Central and Southern Punjab where conditions are not suitable for the growing of medium and long staple cottons, and

(*ii*) even within the long and medium staple tracts (principally the canal colonies) certain lands are unsuitable for cottons other than short staple because of light soil or inadequate irrigation.

Madras.

In the opinion of the Provincial Government, the problem of balancing short and medium staple does not arise as almost all the cottons grown in the Province are of medium staple. It is further stated in view of the great demand in the Province for long staple types, that the improvement of the staple of Cambodia Co. 2 is receiving attention.

Central Provinces and Berar.

The Provincial Government observe that although some progress has been achieved in replacing short staple by medium staple cotton, the bulk of the crop still consists of short staple *Oomras*. As regards the future policy, attention is drawn to the Central Provinces and Berar Cotton Breeding Schemes financed by the Committee, the object of which is to evolve suitable improved types of medium staple cotton for the Central Provinces and Berar which might compete successfully with *Oomras* in respect of ginning percentage, yield and staple.

Bengal.

The Provincial Government consider that no definite action on their part is necessary, as cotton is a minor crop in the Province.

Assam.

The Provincial Government state that no work has been done so far to replace short staple *Garo* by long staple cotton.

North-West Frontier Province.

The Provincial Government observe that although cotton is not one of the major crops of the Province, efforts are being made to increase the area under it on account of the monetary return it gives. The question of replacing short staple varieties by long staple types is receiving attention.

Ajmer-Merwara.

Cotton improvement work has recently been taken up but scarcity of water is stated to be a limiting factor for the growing of long staple cottons.

Baroda.

The Commissioner of Agriculture, Baroda, has intimated that the principle of the resolution is kept in view in all breeding schemes.

Sind.

The Provincial Government observe that of the total acreage under cotton in the Province, ⅔rds is under American and ⅓rd under *deshi*. Their policy is to maintain the present acreage under *deshi* as a proper balance of types has been found to be most advantageous to the cultivator from the point of view of cash return. This consideration has always been kept in view.

Resolution No. 2 :—" This Committee notes that, while as a result of the joint efforts of the Indian Central Cotton Committee and the Provincial Departments of Agriculture, some improvement in the outturn of cotton per acre in India has taken place, the yield still compares very unfavourably with other countries and in many areas is extremely low. It, therefore, recommends :—

(*i*) the starting in major cotton growing tracts of cotton cultivation projects which would be complete holdings or preferably villages managed and cultivated by the cultivators themselves according to the best system advised by the local Agricultural Department and where the results of research work could be concentrated in practice and demonstrated to growers under cultivators' conditions with the improved type or types of cotton best suited to each tract,

(*ii*) the keeping of accounts giving information as to the expenditure and income of the projects referred to above.

The Committee further recommends that such work should be carried out by the Provincial Departments of Agriculture in collaboration with the Indian Central Cotton Committee in selected holdings or villages. "

Bombay and Central Provinces and Berar.

Two model project schemes for the Bombay Provinces and one for the Central Provinces and Berar were received in pursuance of this resolution and placed before the Committee at its last meeting, but their consideration was postponed to this meeting. The subject is dealt with under a separate item on the agenda.

The Government of the Punjab, Madras, Baroda and Sind have the matter under consideration while the Government of Bengal, Assam, North-West Frontier Province and Ajmer-Merwara have intimated that no scope exists in those Provinces for implementing the resolution.

Resolution 3.—" The Committee recommends that the President of the Indian Central Cotton Committee should get into touch with the Russian Institute of Plant Breeding, Tashkent, and see what can be done in the way of getting seeds of cotton varieties collected in their present expedition. It is also suggested that the Imperial Bureau of Plant Genetics (Cambridge) be asked to give all possible information and help.

Thereafter the question of a special expedition should be re-considered, if necessary. "

The President has addressed the Imperial Bureau of Plant Breeding and Genetics, Cambridge, in the matter.

Resolution No. 4.—" The Committee re-iterates the view it has expressed on several occasions that there should be no relaxation of efforts to reduce mixing and other malpractices which prevent certain Indian cottons from being used to the best advantage and which adversely affect the cultivator. It therefore recommends that wherever possible the Cotton Transport Act as well as the Cotton Control Act and the Cotton Ginning and Pressing Factories Act should be applied. "

Bombay.

The Provincial Government state that they are fully aware of the need for checking malpractices which affect the reputation of Indian cotton and reduce the price obtained by the grower and that they have taken a leading part in evolving measures, legislative or otherwise, to check and stop malpractices.

Punjab.

The Provincial Government state that legislation to control (1) the mixing of different varieties of cotton and (2) the watering of cotton and its adulteration with cotton seed is under contemplation. They do not propose to take any action for the present in regard to the application of the Cotton Transport Act.

Madras.

The Provincial Government have replied to say that full advantage is taken of the provisions of the Cotton Transport Act, Madras Cotton Control Act and the Cotton Ginning and Pressing Factories Act. Proposals for prohibiting road traffic under the Cotton Transport Act with the object of maintaining the purity of cotton in protected areas are under consideration.

In this connection it may be stated that the Committee, at its meeting in July 1938, considered the draft of a Bill to amend the Cotton Ginning and Pressing Factories Act in its application to the Madras Province, and passed the following resolution which was forwarded to the Provincial Government :—

Resolution.—" That it be recommended to the Madras Government that in the Cotton Ginning and Pressing Factories (Madras Amending) Bill Clause 4-3A (1) the proviso 'without specifying the fact conspicuously on the outside of the bale or *borah* in the prescribed manner. Every bale or *borah* of cotton not bearing the mark "mixed" shall be considered as containing pure cotton. The local spinning mills however may mix in any way necessary to their industry provided that the mixing takes place in the gins or presses installed in the mill premises and that when such bales or *borahs* are for sale they are to be labelled clearly on the outside as "mixed" ' be omitted."

It is not known what further progress has been made in the matter.

Central Provinces and Berar.

The Provincial Government consider that the Cotton Transport Act, the Cotton Control Act and the Cotton Ginning and Pressing Factories Act which are already in operation in the Province, have helped to reduce mixing and other malpractices.

North-West Frontier Province.

The Provincial Government state that efforts will be made to apply the cotton Transport Act and the Cotton Ginning and Pressing Factories Act, where necessary, although in view of the small area under cotton, no appreciable results are likely to be achieved.

Baroda.

The Commissioner of Agriculture states that the Cotton Transport Act has been applied to protect Wagad cotton against the influx of Rajputana cotton.

Sind.

The Provincial Government intimate that the question of amending the Rules framed under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936, and bringing the Act into operation is under consideration. The enactment of legislation on the lines of the Cotton Transport Act and the Cotton Control Act in other Provinces, is also stated to be under consideration.

As regards the application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, to Sind, the Committee at its last meeting passed the following Resolution which was forwarded to the Provincial Government :—

Resolution.—" The Indian Central Cotton Committee expresses its disappointment at the decision of the Sind Government to postpone the application of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act and the Rules to the next year and desires to reiterate its oft-expressed view that in the interests of the reputation of Sind cotton in the Indian market and in the markets abroad, and in order that the malpractices of mixing and adulteration may be stopped in the newly developed cotton areas in Sind, the Act and the Rules framed thereunder should be brought into force without further loss of time.

The Committee is further of the opinion that the Sind Government should be intimated that the contribution of the Central Cotton Committee towards Sind Seed Distribution and Extension Scheme would be considered in the light of the action taken by the Sind Government on this resolution. "

Bengal, Assam and Ajmer-Merwara.

The Governments of Bengal and Assam and the Administration of Ajmer-Merwara have intimated that no action is considered necessary.

Resolution No. 5.—(*a*) " The Indian Central Cotton Committee desires to place it on record that it has not recommended an increase in the duty on all foreign cotton. It reiterates the view expressed in 1937 and 1938 that should the parity of Indian and imported cotton move to a point justifying such action the import duty should be increased on all cottons which compete with Indian cotton, *i.e.*, cottons below 1" staple at present. "

(*b*) " This Committee is of the opinion that the recent increase in import duty on foreign cotton to be effective in helping the production of long staple cotton in India should have been accompanied by restriction on the import of foreign yarn and cloth or a corresponding increase in duty on such imports. "

Bombay.

The Provincial Government are of opinion that imports of short staple foreign cotton being negligible the recommendation of the Committee will have no effect unless America produces more short staple cotton and dumps it in India with the help of the American Government's export subsidy. They consider that no action seems necessary for the present.

As regards part (*b*) of the resolution the reply states that the danger is from Japanese yarns and cloth rather than from Lancashire goods and that as the Provincial Government have already communicated to the Government of India their views regarding variation in import duties and quotas for Japanese yarns and cloth, no further action on their part is necessary.

Assam.

The Provincial Government welcome restrictions on import of foreign cotton in order to give facility to the indigenous industry.

North-West Frontier Province.

The Provincial Government agree with the resolution.

The Government of Bihar do not consider that any action on the resolutions is necessary as the area under cotton is small and scattered.

Of the 41 States in Central India and Rajputana addressed by the Director, Institute of Plant Industry, Indore, eight have replied to say that they will take such action on the resolutions as is possible.

Summary Proceedings

OF THE

Forty-Second Meeting

OF THE

Indian Central Cotton Committee

HELD ON THE

8th and 9th August 1940.

[Price Re. 1.]

INDIAN CENTRAL COTTON COMMITTEE.

With the Secretary's compliments.

Vulcan House, Nicol Road,
Ballard Estate,
Fort, Bombay.

INDIAN CENTRAL COTTON COMMITTEE

42ND MEETING—8TH AND 9TH AUGUST 1940.

Held at Mercantile Chambers, Ballard Estate, Fort, Bombay.

SUMMARY PROCEEDINGS.

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Present :

Mr. P. M. Kharegat, C.I.E., I.C.S., (*President*),
Sir Chunilal V. Mehta, K.C.S.I., (*Vice-President*),
Sir Purshotamdas Thakurdas, C.I.E., M.B.E.,
Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,
Mr. S. D. Saklatvala, M.L.A.,

Dr. W. Burns, C.I.E.,
Lala Shri Ram,
Mr. Chunilal B. Mehta,
Sir William Roberts, C.I.E., M.L.A.,
Rao Bahadur Sir Madhaorao Deshpande, K.B.E.,
The Hon'ble Mr. V. Ramdas Pantulu,
Mr. J. Vonesch,
Mr. H. R. Stewart, C.I.E., I.A.S.,
Mr. J. C. McDougall, I.A.S.,
Mr. C. H. Parr, I.A.S.,
Mr. R. G. Allan, C.I.E.,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. Roger Thomas,
Rao Bahadur V. Ramanatha Ayyar,
Mr. T. R. Low, I.A.S.,
Mr. Chandulal P. Parikh,
Mr. A. P. Darlow,
Capt. S. R. Pocock, M.C., M.L.A.,
Mr. L. F. H. Goodwin,
Dr. Chellaram Shewaram,
Mr. Jivandas Ladhabhai,
Rao Saheb K. I. Thadani,
Mr. Nizam-ud Din Hyder,
Sardar Bahadur Gurbachan Singh, M.L.A.,
Mr. J. V. Joshi,
Mr. H. Sitarama Reddy, M.L.A.
Mr. G. P. Chakravarty,
Rao Bahadur R. V. Ramasundaram Pillai,
Rai Bahadur Lakshmi Raj Singh, M.L.C.,
Ch. Shiva Mangal Singh, M.L.A.,
Ch. Mohammad Yasin Khan, M.L.A.,
Mr. M. B. Patel, M.L.A.,
Rao Bahadur S. S. Salimath,
Mr. Y. R. Joshi,
Kanwar Raj Nath,
Rao Saheb P. V. Deshmukh,
Mr. Y. G. Deshpande,
Dr. B. L. Sethi,
Mr. Suganchand Tapadia,
Mr. J. M. Doak,
The Secretary (Mr. D. N. Mahta).

By invitation.

Mr. Parmanand, I.C.S., Director of Land Records, Central Provinces and Berar,

Mr. E. F. G. Gilmore, Deputy Director, Board of Scientific and Industrial Research, Calcutta,

Mr. R. G. Saraiya, J.P., C/o Messrs. Narandas Rajaram & Co., Bombay,

Prof. P. C. Mahalanobis, Presidency College, Calcutta,

Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,

Mr. K. Ramiah, M.B.E., Geneticist and Botanist, Institute of Plant Industry, Indore,

Mr. Mazhar Husain, Director of Statistics, Hyderabad State,

Mr. Mohammad Afzal, Cotton Research Botanist, Lyallpur,

Dr. R. Sankaran, Botanist in charge, Scheme for production of long staple cottons in Sind,

Mr. A. B. Kotak,
Mr. R. T. Mirchandani, } Additional members of Technological Research Sub-Committee representing the Karachi Cotton Association.

Mr. G. Srinivasa Iyengar, Junior Assistant Botanist, Mysore (Doddahathi) Cotton Scheme,

Dr. V. G. Panse, Statistician, Cotton Genetics Research Scheme, Indore,

Mr. C. J. Bocarro (Assistant Secretary).

Letters or telegrams were received from the following members regretting their inability to attend the meeting :—

Mr. W. J. Jenkins, C.I.E., I.A.S.,

Mr. A. R. C. Westlake, I.C.S.,

Mr. T. G. Rama Iyer,

Rai Bahadur S. V. Kanungo,

Sardar D. K. Jadhav.

SUBJECT 1.—*Confirmation of Minutes.*

The Minutes of the previous meeting held on the 19th and 20th January 1940 were confirmed.

SUBJECT 2.—*Changes in personnel of the Committee and Sub-Committees.*

The Secretary's note was recorded.

SUBJECT 3.—*Comments of the Government of India on the Annual Report of the Committee for the year ending 31st August 1939.*

The Secretary's note was recorded.

SUBJECT 4.—*Appointment of cotton growers' representatives of the Committee on Board of Directors of East India Cotton Association and reports of members.*

The following members were elected by ballot to serve on the Board of Directors of the East India Cotton Association :—

Rao Bahadur Sir Madhaorao Deshpande,

Mr. H. Sitarama Reddy,

Sardar Rao Bahadur Bhimbhai R. Naik.

SUBJECT 5.—*Report* of Standing Finance Sub-Committee.*

The Balance Sheet as at 31st March 1940 was approved.

The Final Accounts, 1939-40, were approved.

The Revised Estimates, 1940-41, were approved.

The Budget for Government servants, 1941-42, was approved.

In regard to item A(*ii*) of the Report, it was agreed that the two assistants from the Punjab should be absorbed in the Sind Scheme, the senior of the two to be started on Rs. 170 and the junior on Rs. 160.

With reference to paragraph 16 of the Sub-Committee's report, it was agreed that future grants to the Hubli Co-operative Sale Society should be withheld until such time as the outstanding account had been settled.

In connection with the discontinuance of the broadcast of cotton prices at 1 P.M., it was argued that there were places where there were no telegraph offices and where the growers would like to have the benefit of the broadcast of cotton prices and that therefore the question of the loss in telegraph revenue should not be allowed to stand in the way. It was decided that the views of the Committee on the subject should again be forwarded to the Government of India for a reconsideration of their decision.

Reference was made to the scheme of land war risk insurance for agricultural commodities and stress was laid on the desirability of early orders being passed. As regards the rate of premium, 1/32 per cent. was considered the most suitable; a higher rate, it was felt, might even result in the ordinary fire insurance not being taken. The suggestion that there should be a difference in the rates of premium to be charged for up-country and coastal towns was not considered feasible on the ground that, if the rates of premium up-country were lower, there would be a tendency for cotton to be retained there, thus defeating the object of the scheme.

Referring to the work of the Standards Sub-Committee, it was pointed out that universal standards would serve no useful purpose unless the two Associations concerned adopted the same standards. It was agreed that this subject should be considered at the next meeting of the Local Sub-Committee.

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* Appendix I (page 47).

In connection with the proposed experiments on cotton bagging, it was stated that cloth for bagging had already been manufactured on a commercial scale in the country and had been found to stand up to weather conditions well. It was, therefore, only a matter of economics whether or not cotton bagging could replace hessian cloth. It was agreed that before a decision is arrived at, a few bales covered with cotton cloth should be shipped abroad to see how they fare with normal handling.

The Report of the Standing Finance Sub-Committee, as amended, was adopted.

SUBJECT 6.—*Report * of Local Sub-Committee.*

In connection with the maintenance in India of an adequate supply of steel hoops for fastening cotton bales, it was pointed out that a firm in Cawnpore was making hoops for jute mills and that it might be possible for this firm to manufacture steel hoops for cotton bales also.

Doubt was expressed as regards the reasons given in the report of the Sub-Committee for the lower prices of *B. D.8*, compared with local cottons and it was stated that if this statement were correct growers would turn their attention to local cotton instead of *B. D. 8.* It was, however, explained that the lower ginning percentage of *B. D.8* was responsible for the lower prices, and that where *B. D. 8* was guaranteed to have been grown pure, better prices were obtained.

It was decided that the question raised in paragraph 6 of the report should be referred to the Wider Markets Sub-Committee for consideration and report.

Considerable discussion took place on the subject of the position of Indian cotton arising as a result of the shutting off of several European markets owing to the war, and the measures feasible to make up for the loss thus caused. It was pointed out that the finding of alternative uses for Indian cotton in industries other than textiles would be inadequate to deal with the surplus which would be thrown on the Indian market. The general view, however, was that although the market for Indian raw cotton had become restricted there was much scope for expansion of the Indian piecegoods trade and that any improvement in this direction would materially assist the off-take of Indian cotton. Indian mills had received enquiries for piecegoods from countries outside Europe and whilst it was within the capacity of Indian mills to meet these demands, the lack of sufficient freight acted as a limiting factor. It was finally agreed that an Export Organisation should be set up by the commercial interests of the country whose functions should be, *inter alia*, to undertake propaganda for the purpose of increasing consumption of Indian cloth in India, to explore the possibilities of increasing the export of piecegoods to such countries as Ceylon, Malaya, Australia and to take such steps as might be feasible to facilitate the export of Indian piecegoods. It was further decided that the Committee should render necessary help and share expenses in this connection.

* Appendix II (page 56).

In regard to the proposal that *C. 520* should replace *A. 19* and *C. 402* in the list of standard Indian cottons tested at the Technological Laboratory, it was pointed out that *C. 520*, as a cotton, had never been seen on a commercial scale in the United Provinces and that, therefore, it should not be included in the list of standard Indian cottons. Against this view it was urged that while *A. 19* and *C. 402* had dwindled in area, *C. 520* had expanded and showed signs of further increases. It was finally decided that none of the three cottons, *viz.*, *A. 19*, *C. 402* and *C. 520*, should be included in the list but that *C. 520* might be included when its production had reached a commercial scale.

The Report of the Local Sub-Committee, as amended, was adopted.

SUBJECT 7.—*Establishment of regulated cotton markets.*

It was stated that although the Government of the Central Provinces and Berar had power to establish markets without consulting local bodies, slow progress was being made in this direction as a result of which growers of cotton did not obtain adequate prices for their produce. Interested parties opposed the establishment of markets, as they felt their income would be adversely affected. After some discussion it was decided that, as the Central Provinces Government were fully alive to the importance of the question and were doing their best in the matter, it was unnecessary to address them again.

SUBJECT 8.—*Bombay Agricultural Produce Markets Act.*

The Secretary's note* was recorded.

SUBJECT 9.—*Report on the Fumigation of American cotton.*

The accounts relating to the Fumigation of American cotton for 1939-40 were approved. The Committee confirmed the resolution of the Standing Finance Sub-Committee that the grant of a rebate of 5 annas per square bale and 3 annas per round or sample bale fumigated during the year under review should be recommended to the Government of India. It was noted that the total rebate at these rates would amount to Rs. 14,597, and the Committee expressed the hope that this would be passed on to the consumers as far as possible.

SUBJECT 10.—*Report of the Cotton Ginning and Pressing Factories Sub-Committee.*

Attention was drawn to the fact that whilst in the past it had been decided to deal with complaints involving mixing of ginned cotton by reference to the East India Cotton Association and the Karachi Cotton Association, in the draft rules for Sind such complaints were proposed to be dealt with in the gins themselves by analysing the seed. The Punjab, it was observed, was interested in this question as it had always been opposed to the inspection of factories owing to the possibility of corruption. As regards this point it was stated that the intention was that complaints should be made by responsible officers of the Agricultural Department. In reply to an enquiry, it was mentioned that neither

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* Appendix III (page 61).

in Bombay nor in the C. P., was the question of the prohibition of mixing taken up ; in so far, however, as the Bombay Province was concerned, the operation of the Cotton Transport Act and the Cotton Control Act had had a salutary effect on mixing. Reference was made to the fact that the draft rules for Sind were now being opposed on the grounds that the Act was not applied to the Punjab and that there was not sufficient pure seed. Against this it was observed that the Punjab were already considering the question of introducing legislation for licensing of ginning and pressing factories in the Province, whilst, as regards supplies of pure seed, it was emphatically stated that stocks were ample. After further discussion, an assurance was given that provided stocks of pure seed were available, there would be no objection from the commercial community to the application of the Amendment Act and Rules to the Province of Sind.

During discussion, attention was drawn to the existence of a state of insecurity of life and property in Sind at present and it was urged that the Government of Sind should be requested to take steps to protect the growers and factory owners in Sind so as to ensure the safe marketing of the cotton crop.

SUBJECT 11.—*Provincial Cotton Committees—Proceedings of Sind Cotton Committee.*

The Secretary's note was recorded.

SUBJECT 12.—*Technological Reports on Trade Varieties of Indian cottons—Observed deterioration in Westerns and Latur cottons.*

The Secretary's note was recorded.

SUBJECT 13.—(*a*) *Cotton Transport Act—Notification by Bombay Government.*

The Secretary's note* was recorded.

(*b*) *Review of the state of foreign trade in Indian cotton.*

In view of the fact that most of the European markets had been closed to Indian cotton, it was urged that steps should be taken to find other markets to replace them. A request was made that the Government of the United Kingdom should be approached to take a large portion of the Indian cotton crop just as they had done in the case of Egyptian cotton. Prices of Indian cotton had almost reached pre-war level, and unless special measures were adopted, Indian cotton would suffer heavily once the new crop began to move. It was decided that the Government of India should again be addressed in the matter.

(*c*) *Desirability of applying a Cotton Control Act to Sind—Note by Mr. Roger Thomas.*

It was decided, in view of the divergence of opinion between the various Sind representatives, that a comprehensive and agreed note on the subject should be submitted for the consideration of the Committee at its next meeting.

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* Appendix IV (page 63.)

(*d*) *Proposed appointment of a temporary assistant to help Mr. V. G. Panse, Statistician, Cotton Genetics Research Scheme, Indore, in the work of collection and examination of data on manurial experiments on cotton in India and designing of model lay-outs.*

The proposal for the appointment of a temporary assistant was sanctioned.

(*e*) *Central Provinces and Berar Cotton Ginning and Pressing Rates Fixing Rules.*

It was pointed out that the two recommendations made by the Committee, namely (1) that the erection of new factories should be discouraged in tracts which were sufficiently provided with factories and (2) that the rates fixed should be liable to appeal, had not been accepted by the Central Provinces Government, and it was urged that unless these recommendations were given effect to the Act would not be successful. It was agreed that the Provincial Government should again be addressed in the matter.

(*f*) *Indian Central Cotton Committee—Budget for* 1940-41*—Letter from Government of India.*

It was suggested that the Government of India should be informed that due care was already being exercised in regard to expenditure and that the minimum balance of Rs. 9 lakhs decided upon by the Committee was likely to be maintained for a long time.

SUBJECT 14.—*Progress Report on Punjab Botanical Scheme.*

This is one of the earliest schemes of the Committee. Sanctioned in 1923, for a period of five years, it came into operation in August 1925, and has been extended from time to time, the last extension, which will expire on the 28th February 1945, being approved by the Committee at its meeting held in January 1940.

The original object of the scheme was to investigate the causes of the periodic failures of American cotton in the Canal Colonies of the Punjab where a large area is annually grown under such cottons, and to obtain suitable types of American and *desi* cottons respectively. In view, however, of the immediate economic importance of improved types of cotton, work was concentrated on breeding, and a separate physiological scheme was sanctioned for investigating the problem of periodic failures of American cotton. The Botanical Scheme has thus been concerned mainly with the improvement of both *desi* and American cottons. Tests of American and *Desi* strains were carried out at several stations during the year. It would appear that the Cross *C.B.S.* (*Barberton*) × *289F/43* has combined most of the desirable characters.

The report of the Agricultural Research Sub-Committee on the scheme, as amended and adopted by the Committee, is given below :—

"The Sub-Committee desires to point out that the area given under strain *289F/43*, which is based on the quantity of seed distributed, will have to be checked with the figures collected by the factory-owners and traders. In its opinion, more efforts are required to work out the relative figures for the area and price of the two strains *289F/43* and *289F/K25*. The Sub-Committee is further of the view that the non-technical summaries of the Punjab Botanical Scheme and of the

improvement of Punjab-American *289F* should be combined into one, so as to furnish a complete picture of the breeding work done in the Punjab. A point was raised whether non-technical summaries should refer to all the items of the programme or should be confined to only important points; after some discussion it was agreed that it would be enough if non-technical summaries dealt with only the important items in the approved programme of work.

The details given in the report indicate that the question of yields is to be taken up at a later stage; the Sub-Committee, however, feels that greater stress should be given to the determination of yields in the earlier stages."

SUBJECT 15.—*Progress Report on scheme for improvement of Punjab-American 289F/K25 Cotton.*

This scheme was sanctioned in January 1938 for a period of five years and commenced to operate from the 9th July 1938. Its object is the improvement of *289F/K25* cotton which was evolved at the B. C. G. A. Farm some years ago. Though this strain is said to be very popular in the Lower Bari Doab Canal Colony and the area under it has expanded very rapidly, it suffers from the defect of susceptibility to jassid attack. One of the aims of the present scheme, therefore, is to develop jassid-resistant strains from this cotton.

The Agricultural Research Sub-Committee considered the Progress Report on the scheme and made the following comments :—

"In considering the Progress Report, the question was raised whether it would not be better for the hybridisation work to be done at Lyallpur and for the officer in charge of the scheme at Khanewal to give his entire attention to the original aim and object of the scheme, as what was required were quick results and these could be achieved by concentrating on the original objects of the scheme. After some discussion, it was agreed that, provided the material grows satisfactorily, both at Lyallpur and Khanewal, the initial hybridisation work might be carried out at Lyallpur, but that the testing of crosses so produced would have to be followed up at Khanewal for which tract the new strains were required.

The Sub-Committee also considered the letter of the Cotton Research Botanist at Lyallpur, and agreed that, in view of the reasons stated therein, the varietal trials at Khanewal might be continued."

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 16 (*a*)—*Progress Report on Hyderabad Botanical Scheme.*

This scheme, which is chiefly concerned with the development of improved strains of *Gaorani* cotton, was sanctioned in July 1928 for a period of five years, and was put into operation in May 1929. In August 1933, it was extended for a further period of five years, with effect from 1st April 1934. In July 1938, a further extension of five years, from the 1st April 1939, was granted.

In one of the varietal trials conducted at Parbhani, Madhol and Latur during the year, *Gaorani 115* proved very promising in the former two places while *G. 3B* gave the highest yield at Latur. In another trial *G. 16C* gave significantly better yield than *G. 12F* and others. *Parbhani-American 1* has been found to be suitable to the hill areas of Aurangabad district.

The observations of the Agricultural Research Sub-Committee on the progress report are given below :—

"The Sub-Committee notes that the varietal trials of *Umri Bani* and Parbhani *Local* were taken as control; it suggests that in future years *Gaorani* strains *4* and *6*, which are already under distribution, should be used as controls and that in cases where some strains have been tested in previous years under varietal trials, their

previous performances should also be taken into account, where this is not done, while considering the merits of the strains. In places, however, where *Gaorani* strains *4* and *6* have not yet replaced the local varieties, the latter may be included in the varietal trials. The Sub-Committee feels that trials of strains for wilt-resistance under controlled conditions are necessary. Since facilities for such trials are not available at Parbhani, it is suggested that the material should be sent to Poona for testing by Dr. Uppal who is agreeable to undertaking such work, provided necessary funds are made available under contingencies. The Sub-Committee recommends that for the conduct of this work at Poona a sum of Rs. 500 per annum should be sanctioned under contingent expenditure, in addition to the provision for salary for an Assistant in the grade of Rs. 35—5/2—60—5—100. As regards the Cotton Research Botanist undertaking the study of the relationship between rainfall and yields, the Sub-Committee is of the opinion that such study is desirable. The Sub-Committee was given to understand that similar studies were also being made in Madras and the Cotton Specialist, Madras, agreed to supply all available information on the point to the Cotton Research Botanist, Parbhani."

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 16 (*b*)—*Scheme for the improvement of cottons of the 'Oomras' tract of Hyderabad State.*

The proposals received from H. E. H. the Nizam's Government for a scheme for the improvement of cottons of the "Oomras" tract of the Hyderabad State were considered by the Agricultural Research Sub-Committee.

The object of the scheme is to improve the cotton of the "Oomras" tract of the State by growing suitable varieties in the areas from which such cottons have been ousted by short staple, more prolific types. This is sought to be achieved—(1) by the production of an early maturing and high ginning strain of *Gaorani 12F*, for the eastern half of Parbhani district and Hadgaon taluka of Nanded district, to cover an area of about 500,000 acres, (2) by the production of an early maturing and high ginning strain of Parbhani-American, for the *Ghat* area of Aurangabad district for an area of about 200,000 acres, (3) by evolving a wilt-resistant strain from *Gaorani 16C*, by crossing it with *New Million Dollar*, for the western half of Parbhani district and part of Bhir district for an area of nearly 400,000 acres, and (4) by breeding a high ginning, quick maturing, wilt and drought resistant variety capable of spinning 12—16's highest standard warp counts, for the southern half of Aurangabad district for an area of about 200,000 acres.

The recommendations of the Sub-Committee on the proposals are given below :—

"The Sub-Committee is of the opinion that it would be desirable to start a scheme for the improvement of *Oomras* of Hyderabad State, and recommends that the scheme put up by the Cotton Research Botanist should be approved for five years, subject to review at the end of three years. The following alterations in the scheme are, however, suggested :—

(1) The scale of the Junior Assistant should be Rs. 110—5—150.

(2) Only one post of peon should be retained.

(3) The provision under 'Books' should be reduced to Rs. 100 per year.

(4) Under 'Printing, postage and stationery,' Rs. 300 per year should suffice.

(5) Under 'Peons' dress,' Rs. 25 in the first year, Rs. 12 in the second year, Rs. 12 in the third year, Rs. 25 in the fourth year and Rs. 12 in the fifth year should be provided.

(6) Under 'Cost of cultivation,' the amount should be reduced to Rs. 1,000 per year.

(7) Under 'Apparatus,' Rs. 750 for the first year, Rs. 200 for the succeeding years are suggested.

(8) Full receipts from the farm from cotton should be credited to the Committee."

The recommendations of the Agricultural Research Sub-Committee were approved.

SUBJECT 17.—*Final Report on Central Provinces Botanical Scheme.*

The Final Report on the scheme not having been received, it was decided that it should be made available for consideration at the next meeting of the Committee.

SUBJECT 18.—*Progress Report on Central Provinces and Berar Cotton Breeding Scheme.*

The Central Provinces and Berar Cotton Breeding Scheme was sanctioned by the Committee at its meeting held in July 1938 for a period of five years, with effect from the 1st April 1939.

The object of the scheme is to evolve, by selection or hybridisation, suitable new strains of cotton which can compete successfully with the local '*Oomras*' in point of ginning outturn and yield and, at the same time, possess a staple capable of spinning between 20s to 25s highest standard warp counts.

The yield trials conducted during the year under review on Government Farms and on cultivators' fields are reported to have brought out once more the superiority of *V. 434* over all other types of cotton grown. The yield obtained from it was 961 lbs. per acre and it has now established itself as being the best all-round cotton for the tract.

The Agricultural Research Sub-Committee, which considered the Progress Report on the Scheme, made the following observations :—

"The Sub-Committee regards the report as being somewhat disappointing particularly in regard to the technique employed in breeding and the method of presentation of the work done ; for instance, greater emphasis is laid on the yields of single plants instead of on the average performance of their progenies. Critical differences have not been worked out for tables presented at pages 7 and 8 to enable one to study the merits of the various strains under trial. In the programme of work, it is stated that re-selections in *V. 434* will be made ; the Sub-Committee, however, considers that it is desirable to find out first whether there is sufficient variability in the material to make selection for high ginning percentage worthwhile. These remarks apply equally to the Berar part of the scheme, in which also greater importance has been attached to the performance of single plants than to the average of their progenies. The Sub-Committee recommends that replicated progeny row method might be adopted with advantage from the beginning.

Subject to the remarks made above, the Sub-Committee recommends that the Progress Report be approved."

The recommendations of the Sub-Committee were approved.

SUBJECT 19.—*Progress Report of the Institute of Plant Industry, Indore.*

The primary object of the Committee in financing the Institute was to provide a centre for cotton research for the black soils of the Malwa Plateau. This was the last of the progress reports to be presented in this form, as henceforward, the work done on Genetics and Plant Physiology will be described separately in the Progress Report of the new Cotton Genetics Research Scheme, Indore.

The Comments of the Agricultural Research Sub-Committee on the Progress Report, which were endorsed by the Indian Central Cotton Committee, are given below :—

"As the Report shows that the ginning percentages of some cottons grown in Dhar and Indore vary widely, the Sub-Committee is of the opinion that it would be desirable to find out the causes responsible for these big fluctuations. It recommends that the material should be sent to Poona for testing for wilt-resistance. Dr. Uppal expressed his willingness to undertake this work, provided he was given some assistance. It was noted that additional glass-house accommodation was not required at once for the work from Hyderabad State but that with the addition of similar work from Indore, more accommodation would be necessary. The Sub-Committee agreed that the Director of Agriculture, Bombay, might put up proposals for additional assistance for Dr. Uppal in connection with this work for the consideration of the Committee."

SUBJECT 20.—*Progress Report on the Punjab Root Rot Scheme.*

The scheme, which has for its object the investigation of the cause and control of the root rot disease in the Punjab, was sanctioned in August 1932 for a period of three years, extended in February 1935 for a period of three years and again in July 1938, for a period of 2½ years.

During the year under report, observations on the rate of mortality due to root rot in diseased plots and on *desi* and American cottons again showed that the disease is markedly reduced in cottons sown after the middle of June and in the 1st week of April. Nine foreign varieties which showed a mortality range of 26 to 42 per cent have been selected for further trials.

The Agricultural Research Sub-Committee made the following comments on the Progress Report :—

"It is reported that inter-cropping with *juar*, *bajri* and *moth* with cotton reduced the incidence of root rot considerably. The Sub-Committee recommends that, in future studies, both the incidence of relative resistance and the yields obtained in the several mixtures should be furnished for comparison. No mention is made of the item 'study of causes of the absence of the disease in the Ambala district' in the report.

Subject to the remarks made above, the Sub-Committee recommends that the Progress Report be approved."

The Report of the Sub-Committee was endorsed by the Committee.

SUBJECT 21.—*Progress Report on Baroda Root Rot Scheme.*

The scheme, which has for its object the study of the root rot disease of cotton in Baroda and the production of strains resistant to it, was sanctioned in July 1931 for a period of two years. It was extended in August 1933 for three years, and in August 1936 for a further period of 5 years and four months.

During the year under report, *Karkhadi* selections proved suitable both in respect of yield and resistance to root rot but this cotton does not appear to have maintained its spinning performance in which a marked falling off has been observed. It is now proposed to hybridise the most favourable *Karkhadi* strains with quality cottons like *1027 A. L. F.*, Segregate *76—12* from Broach, *Verum*, *Jarila* and *Gaorani*.

The report of the Agricultural Research Sub-Committee on the Progress Report, as amended and adopted by the Committee, is as follows :—

"The Sub-Committee considers that as the yields of cotton in inter-cropping experiments are important, they should be furnished. It was agreed that, although the resistance of *Karkhadi* to root rot was only partial, work on it should go on and attempts should be made to get still higher resistance before using it for crossing. All mycological work, except the programme of work laid down by the Sub-Committee at the Lyallpur meeting, should be wound up and the work done so far should be written up for publication.

The Sub-Committee notes that in this research the responsibility or otherwise of *Nematodes* for root rot has again not been established."

SUBJECT 22.—*Progress Report on Mysore (Doddahathi) Cotton Scheme.*

This scheme was sanctioned in February 1935 for a period of three years with the object of obtaining 'Red Leaf' resistant strains suitable for Mysore State in general, and for the Irwin Canal area in particular. It came into operation in November 1935. In July 1938 it was extended for a period of three years from 1st November 1938.

It was noted that the incidence of the 'red leaf' disease varied according to season but *M.A.II*, ×4383, ×3915 and *Co.1267* were the least affected; the African *hirsutums*, *Punjab American* cotton and *Gadag No. 1* suffered the most. The four varieties referred to above proved to be the best in respect of yield of seed cotton per acre in all the sowings. The F_1 generation of the crosses between *G. peruvianum* and *M. A. II* and *Co. 2* were found to be more resistant to the disease than *M. A. II* or *Co. 2*.

The Agricultural Research Sub-Committee considered the Progress Report and made the following comments :—

"The Sub-Committee suggests that in the manurial experiments reported on page 9, the economics of the application of manure should be furnished in future reports. On page 8 of the report, the lint length given for *3915* is obviously a mistake; it should be corrected to 25·7. The Sub-Committee considers that item 11 in the programme of work for 1940-41 should be retained but that work on items 6 and 7 and 10 (*b*) should be dropped."

Subject to the above comments, the Progress Report is approved.

The Sub-Committee's Report was adopted.

SUBJECT 23.—*Progress Report on Plant Puller Propaganda Scheme in Surat, Broach and Panch Mahals Districts.*

The scheme had for its object the eradication of the spotted bollworm by the uprooting of cotton stalks by means of plant pullers. It was sanctioned in August 1933, extended in August 1934 for two more seasons; in August 1936, a further extension for 2 years was sanctioned, and in July 1938, for two years more.

During the year under report the number of plant pullers sold in the area lying south of the Narmada was 1552 against 955 in the previous year, while 680 plant pullers were sold in the tract north of the Narmada. It was reported that nearly 10,000 plant pullers have been supplied up to now by the Department to cultivators in the Surat area excluding those purchased by the people direct. The probable area cleaned in

Broach before 15th May came to 92% in Jambusar, 98% in Broach and 95% in Vagra, and the area uprooted in the tract south of the Narmada was 49% in Ankleshwar, 70% in Olpad and 66% in Chorasi, against 44, 65 and 61%, respectively, during previous year.

The Agricultural Research Sub-Committee reported on the Progress Report as under :—

"The Sub-Committee noted that the area covered per plant puller sold in these districts was much smaller than in Baroda. It recommends that suitable legislation should be passed to follow up the work of the scheme, and that arrangements should be made to see that the prices of plant pullers in British India and Baroda are the same.

The recommendations of the Agricultural Research Sub-Committee were approved."

SUBJECT 24.—*Progress Report on Plant Puller Propaganda Scheme in Baroda State.*

This scheme, which has for its object the eradication of the Spotted Bollworm by the uprooting of cotton stalks by means of plant pullers, was sanctioned in August 1934 for a period of two years, and came into operation on the 1st January 1936. It was extended for a period of two years from 1st January 1938, and, in August 1939, a further extension for two years, from 1st January 1940, was sanctioned.

During the year the number of pullers sold was 4,831 and 1,980 and the area handled was 167,612 acres and 178,594 *bighas* in the Baroda and Navsari districts, respectively. The percentage of uprooted area was 84.05 in the Baroda district as against 72 in the Navsari district.

The Agricultural Research Sub-Committee considered the progress made on the scheme to be satisfactory and recommended the report for adoption.

The Committee accepted the recommendation of the Agricultural Research Sub-Committee.

SUBJECT 25.—*Progress Report on Scheme for Marketing of 1027 A. L. F. cotton in Baroda State.*

This scheme was sanctioned in January 1938 for a period of three years and came into operation in February 1938. It was extended in January 1940, for a further period of two years. The object of the scheme is to help the growers of *1027 A. L. F.* cotton to realise better prices for their produce by the establishment of a marketing centre at Surat to deal with the cotton produced by groups of growers and Co-operative Sale Societies in Baroda State. A noteworthy feature of the year was that, for the first time, bales were graded and marked under the Agricultural Produce (Grading and Marking) Act, 1937.

The marketing office at Surat commenced work on 1st January 1940. With the help of a loan of Rs. 3½ lakhs from the Baroda Government, advances at 4 per cent interest were given to cultivators against cotton delivered by them. The Baroda Government also sanctioned a sum of Rs. 15,000, without interest, as recoverable imprest,

for advancing loans to Societies and groups for ginning, pressing and insurance expenses. There were eight pooling centres against five in 1939 and four in 1938. The total number of bales sold through the marketing organisation was 6,750, against 2,760 in 1939 and 2,146 in 1938. The average premium on total sales per *khandy* was Rs. 10-6-9, against Rs. 7-12-0 in 1939 and Rs. 5-4-6 in 1938. The premiums received were thus very satisfactory, despite adverse market conditions. The progress of the scheme was considered to be satisfactory and the report was approved.

SUBJECT 26.—*Final Report on Punjab Clean-up Scheme.*

This scheme was an offshoot of the Punjab Pink and Spotted Bollworm scheme and was sanctioned by the Committee for a period of two years from the 1st April 1937. The object of the scheme was to show, by practical demonstration over an area of 500 square miles in the Canal Colonies, that better yields of *kapas* can be obtained by the elimination of the Spotted Bollworm. This was sought to be achieved by clearing the whole area of all cotton stalks and stubbles immediately after the pickings were over, and by eradicating, at the same time, the alternative host plants. In November 1938 the scheme was extended for a period of ten months from the 1st April 1939 and a further extension by three months, *i.e.*, up to 30th April 1940, was sanctioned in January 1940 to enable the work to be completed.

It was noted that the *Desi* and American varieties gave an increased yield of 20 and 21.5%, respectively, compared with the untreated area.

The Agricultural Research Sub-Committee considered the Final Report and recommended that it should be published as departmental bulletin.

The recommendation of the Sub-Committee was approved.

SUBJECT 27.—*Progress Report on Hyderabad Seed Distribution Scheme.*

This scheme was sanctioned in November 1929 for three years in the first instance and was put into operation in March 1930. It was extended in February 1933 for three years and again in January 1936 for another six months. In August 1936, a further extension of 4½ years was sanctioned with effect from the 1st September 1936. The object of the scheme is to introduce improved strains of cotton in the Raichur District and to market the crop under favourable conditions so as to secure suitable premiums for the cultivator. During the first two years of the scheme, seeds of *Dharwar No. 1* and *Gadag No. 1* were distributed, but as a result of the experiments conducted by the Hyderabad and Bombay Agricultural Departments, the distribution of *Dharwar No. 1* seed was discontinued in favour of *Jayawant* which was found to be more suitable.

During the year, owing to unfavourable weather conditions, the estimated outturn of *Jayawant* was 31 lbs. of lint per acre against 53 lbs. last year. It is proposed to purchase 5,60,000 lbs. of pure *Jayawant* seed sufficient to cover 40,000 acres in 1940-41.

The Agricultural Research Sub-Committee considered the progress report and made the following remarks :—

"The Sub-Committee is of the opinion that, considering the quantity of seed distributed, the cost of the scheme is high. It is stated in the report that *Jayawant* cotton secured a premium of Rs. 10 to Rs. 20 over *Broach;* it would have been more useful if the premia obtained were expressed in reference to the local cotton.

The Director of Agriculture intimated that the whole area intended to be grown under *Jayawant* had now been covered."

The Report of the Sub-Committee was adopted.

SUBJECT 28.—*Cotton Grading and Marking Rules—Proposed application to Sind Sudhar Cotton—Reference from Government of India.*

The report of the Agricultural Research Sub-Committee as amended and adopted by the full Committee is as follows :—

"The Sub-Committee suggests that the name 'East India Cotton Association' should be corrected to read 'Karachi Cotton Association' and that in para (*a*) under 'Special characteristics' pertaining to 'AGMARK certified pedigreed 289F-1 (Sind Sudhar)', the word 'Licensed' should be changed to 'certified' and after the words '98% pure' the word 'and' should be deleted and the words 'percentage of *desi* not exceeding 1, and' added. In paragraph (*a*) under 'Special characteristics' pertaining to 'AGMARK certified 289F-1 (Sind Sudhar)' after the words 'Government Department' in the last line, the word 'and' should be replaced by the words 'as being 95% pure, percentage of *desi* not exceeding 1, and.' In paragraph (*b*) the word 'license' should be changed to 'certificate.'

The other Rules are approved."

SUBJECT 29.—*Baroda State* Agricultural Pests and Diseases Act, 1939.*

The Agricultural Research Sub-Committee which considered the Act reported as follows :—

"The Sub-Committee suggests that in Section 6, para 2, '3 days' should be substituted for '10 days.' The Commissioner of Agriculture intimated that the Act would be applied, in the first instance, to 'Cotton.'

The Sub-Committee has no other remarks to offer."

The recommendation of the Agricultural Research Sub-Committee was approved.

SUBJECT 30.—*Progress Report on Bikaner Bengals Cotton Improvement Scheme.*

This scheme which was sanctioned in July 1930 for a period of five years came into operation in January 1931. Its object is to study the local problems of the agriculturists and to obtain by selection and hybridisation one or more superior types of cotton suitable for the locality. It was extended in January 1936 for another five years.

Sanguineum 119 again proved outstanding and the only selection that approached it in yield was *R. 18*. This latter strain has also been found to be better both in yield and ginning percentage than *Cwn. 520*. Improvement of quality of *Bengals* cotton through hybridisation is now under way.

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* Printed in the Committee's Annual Report for the year ending the 31st August 1940.

The Agricultural Research Sub-Committee made the following observations on the Progress Report which were approved by the full Committee :—

"The Sub-Committee noted that there had not been time to give effect to the observations made by the Committee a year ago. It, however, desires to emphasise that this should be done. This observation applies particularly in reference to the discontinuation of work on *47-F*, as this strain has been dropped in the Punjab. There is no indication in the report that supervision from Indore has been strengthened, and Mr. Low agreed to arrange for more visits, if possible. Cultivation experiments require overhauling. Subject to these remarks the Report is approved."

SUBJECT 31.—*Bikaner Bengals Cotton Improvement Scheme—Proposed extension of—.*

The Agricultural Research Sub-Committee considered proposals for the extension of this scheme for a further period of five years from the 1st January 1941 and its recommendations as amended and adopted by the Committee are as follows :—

"In order that the work so far done may not be lost and as the cost involved is moderate, the Sub-Committee supports the extension of the scheme on the terms recorded. It desires to emphasise the need of active propaganda to introduce the improved cultural methods and to extend the area under cotton. These are likely to be influenced by the work produced at this station. The Sub-Committee hopes that the demonstration plots referred to in the application for extension will be given close attention. The data available are not conclusive ; it is desirable that the area which is expected to be under cotton and the anticipated yield should be defined. It appears that the intention is apparently to go for quality at the expense of money value ; this is, to accept a false ideal and should be given up."

SUBJECT 32.—*Progress Report on Bengal Comilla Cotton Scheme.*

This scheme, which is concerned with the improvement of the important commercial characters of *cernuum* cotton, was sanctioned in February 1933 for a period of five years, and it came into operation on the 1st December 1934. In August 1939, it was extended up to the 31st March 1942 and at the same time, it was decided that the work should be concentrated entirely on survey.

During the year under report, as a result of survey work done, 6,076 samples were collected, of which 250 have a ginning percentage of 46 on an average. Replicated progeny row trials in which 28 strains are being tested for yield and ginning percentage were continued and 480 single lines—the outcome of the last two years' survey work—were under observation. Some of these are stated to have given an average ginning percentage of 40 on terraces.

The Agricultural Research Sub-Committee considered the progress report on the scheme and made the following observations which were adopted by the full Committee :—

"The Sub-Committee repeats the observations made at the last meeting and emphasises the need for supervision of which there is little evidence in the report. The Director of Agriculture, Punjab, intimated that the Government of Bengal had made enquiries in regard to the training of an officer for a year in the Punjab on cotton growing and research and that the Punjab Government had agreed to give facilities. It was decided that this should be brought to the notice of the Bengal Government with the recommendation that a suitable officer be now deputed. The Sub-Committee noted the extension of attention given to survey work in search of suitable local material and expressed the view that the important characteristics which make *Comilla* cotton of value should not be overlooked in any work directed to its improvement.

Subject to the above observations, the Report is approved.".

SUBJECT 33.—*Final Report on Scheme for Cotton Marketing Survey in the Punjab.*

The scheme was sanctioned in January 1938 for a period of 15 months and came into operation on the 16th September 1938. It was extended for two months and terminated on 15th February 1940. The object of the scheme was to conduct a survey of the cotton crop on similar lines to those carried out on other crops by the Imperial Council of Agricultural Research, with a view to collecting all available information for the establishment of regulated markets. The survey includes a detailed study of all phases and channels through which cotton passes from the time of picking in the field to the time it reaches the final consumer through the various intermediaries. Necessary information has been collected about marketing practices, arrivals, stocks and carry-over, the procedure in the ginning and pressing factories, baling and pressing charges and the despatch of cotton to various consuming centres. During the course of investigation all the important markets, ginning and pressing factories and cloth mills of the Province were visited.

The Agricultural Research Sub-Committee examined the Final Report and made the following recommendations which were accepted by the full Committee :—

"The Sub-Committee is satisfied with the character of the work done and approves of the Report. It suggests that the Director of Agriculture, Punjab, should report what action he proposes to take on the various findings ; the report should be forwarded to the Marketing Adviser to the Government of India for remarks."

SUBJECT 34.—*Progress Report on Revised Jayawant and Gadag No. 1 Seed Distribution Scheme.*

This scheme was sanctioned by the Committee in August 1935 (to replace the five existing seed schemes in the Southern Division of the Bombay Province, *viz.*, Hubli, Gadag, Athani, Haveri and Bailhongal), for a period of five years and commenced work on the 1st June 1936. Its object is to eliminate local mixtures and to introduce pure *Jayawant* and *Gadag No. 1* cottons in the Southern Division of the Bombay Province over an area of 9½ lakhs acres within five years.

During the year, the area under *Jayawant* and *Gadag No. 1* was 6,28,713 acres and 1,33,515 acres, respectively. 78,54,000 lbs. of *Jayawant* seed sufficient for 7,67,000 acres and 18,49,800 lbs. of *Gadag No. 1* seed sufficient for 1,52,200 acres are expected to be available for distribution in the 1940-41 season. 28,200 *dokras* of *Jayawant* and 22,262 *dokras* of *Gadag No. 1* were graded and sold by auction. The extra profit realised by cultivators is estimated at Rs. 11,13,412 for *Jayawant* and Rs. 3,40,060 for *Gadag No. 1.*

The report of the Agricultural Research Sub-Committee on the scheme as adopted by the Indian Central Cotton Committee is as follows :—

"The Sub-Committee notes that the auction system has given an extra profit to the growers ; there is, however, no indication that any provision was made to the effect that the *kapas* disposed of at the auctions was sold under the condition that it would be ginned and pressed in factories under Government supervision so that the mixing of lint could be prevented. It recommends that this should get attention.

The Progress Report is considered satisfactory and is approved."

SUBJECT 35.—*Revised Jayawant and Gadag No. 1 Scheme—Proposed extension of—.*

The Agricultural Research Sub-Committee considered proposals received from the Registrar of Co-operative Societies and Director of Rural Development, Bombay Province, for the extension of the Revised Jayawant and Gadag No. 1 Seed Distribution Scheme in the Southern Division, Bombay Province, for a further period of one year in the first instance, from the 1st June 1941. The recommendations of the Sub-Committee as amended and adopted by the Indian Central Cotton Committee were as follows :—

"This scheme has been in operation for ten years. The Sub-Committee is of the opinion that at this stage all schemes of this kind should receive a larger contribution from Provincial Governments. It, therefore, recommends that in regard to all seed distribution schemes which have already completed ten years, the Indian Central Cotton Committee's contribution during the next five years should be limited to 33% of the pay of staff or of the incidental expenditure, provided that the contribution thus made shall not exceed 15% of the total cost of the scheme The Sub-Committee approves of the extension of this scheme on the above basis."

SUBJECT 36.—*Progress Report on Jarila Seed Distribution and Extension Scheme.*

The scheme was sanctioned in March 1937 for a period of ten months in the first instance, and was extended for a period of one year in January 1938 and again in November 1938 for a further period of three years. The object of the scheme is to replace *Banilla* over an area of about 1,55,000 acres in the Khandesh tract with *Jarila*, which is wilt-resistant. *Jarila* is reported to have given an average yield of 345¼ lbs. per acre against 309 $\frac{7}{12}$ lbs. of Local, During the year, 6,680 bales of cotton were sold at a premium of Rs. 13 to Rs. 34 "ON" Broach.

The observations of the Agricultural Research Sub-Committee on the Progress Report are given below :—

"The Sub-Committee considers that more attention should be given to increasing the quantity of seed for the general area and suggests that a suitable organisation similar to the type in the Southern Division of the Bombay Province should be created. The Progress Report is approved."

The Report of the Sub-Committee was adopted.

SUBJECT 37.—*Progress Report on Deccan Canals (Banilla) Seed Distribution Scheme.*

This scheme was sanctioned in January 1934 for a period of five years and came into operation in April 1934. It was extended in November 1938 for a further period of five years. The object of the scheme is to supply pure *Banilla* seed for the irrigated tracts in Sholapur, Poona and Ahmadnagar districts.

During the year under report, a poor yield of 13,340 lbs. of *kapas* was obtained which gave only 3,500 lbs. of seed for multiplication in 1940-41. The operation of the scheme has been shifted from Kopergaon to Indapur taluka.

The Progress Report was approved.

SUBJECT 38.—*Deccan Canals (Banilla) Seed Distribution and Extension Scheme—Reference from the Director of Agriculture, Bombay.*

The proposal of the Director of Agriculture, Bombay Province, to shift the operation of the scheme from Kopergaon to Indapur taluka was approved.

SUBJECT 39.—*Progress Report on Bombay B. D. 8 Seed Distribution Scheme.*

SUBJECT 44.—*Progress Report on Baroda B. D. 8 Seed Distribution Scheme.*

Bombay Scheme.

This scheme which is concerned with (1) the marketing of pure *B. D. 8* cotton in order to secure a price commensurate with its quality, (2) the obtaining of pure seed for further multiplication and (3) propaganda work for increasing the production of pure *B. D. 8* seed, was sanctioned in August 1935 for a period of three years. It came into operation in December 1935 and was extended in July 1938 for a period of five years.

During the year under report, 30,951 acres were under *B. D. 8*. 14,459 bales of pure *B. D. 8* were sold at premiums ranging from Rs. 20 to Rs. 39 'ON' Broach against 10,208 bales sold at premiums ranging from Rs. 30 to Rs. 54 'ON' last year.

Baroda Scheme.

The object of this scheme is to popularise *B. D. 8* cotton, which is both wilt-resistant and superior in quality to the local cottons, over an area of 2,55,000 acres of black cotton soil of the Baroda district north of the river Nerbudda. It was sanctioned by the Committee in July 1938, for a period of five years and came into operation on the 1st April 1939.

During the year under report, 83,760 lbs. of *B. D. 8* seed were distributed over an area of 7,680 acres. It is reported that the ginning percentage of *B. D. 8* dropped to 31·2 from 32·25 last year and that this reacted unfavourably on the popularity of the cotton. 780 bales of cotton were sold at premiums ranging from Rs. 21-8 to Rs. 39.

The observations of the Agricultural Research Sub-Committee on the Progress Reports are given below :—

"The expansion reported in 1939-40 is satisfactory. The Sub-Committee noted that the reduction of premium over that of the local cotton as the outcome of higher cotton prices and the exceptionally poor ginning percentage secured under adverse conditions in this tract during the present year resulted in a loss to the growers as compared with *Goghari* and that this is likely to be followed by a reduction in area in 1940-41. It is understood that the Department of Agriculture, Bombay, hopes to provide a cotton with a staple similar in quality to, but with a better ginning percentage than, *B. D. 8*. In a normal year, with Broach cotton below Rs. 200, *B. D. 8*, giving a higher yield, does undoubtedly pay under conditions when a few extra rupees are important. It is undesirable that this cotton, which is the basis of the seed organisation of this tract, should be allowed to die out till another and possibly more paying cotton can be established.

The Reports are approved."

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 40.—*Final Report on Madras Co.2 Seed Distribution Scheme.*

This scheme was sanctioned by the Committee in 1932 for a period of five years for the distribution of *Co.2* seed in the Salem and Coimbatore districts through the agency of the Madras Agricultural Department and the Tiruppur Co-operative Trading Society. In January 1938, the Committee considered proposals for the extension of the *Co.2* scheme and sanctioned the appointment of one demonstrator and one *mistry* to help the Tiruppur Co-operative Trading Society for a period of one year. In November 1938, the Committee extended the *Co.2* scheme for the distribution of *Co.2* seed in Salem district for a further period of four years and five months.

The Final Report was approved.

SUBJECT 41.—*Madras Co.2 Seed Distribution Scheme—Request for additional grant—Reference from Madras Government.*

In connection with the Madras *Co.2* scheme, which was extended in November 1938, the Agricultural Research Sub-Committee considered a request from the Madras Government for an additional grant of Rs. 37,125 to cover interest on capital outlay invested on the purchase of seed and adequate guarantee against possible loss in seed transactions, and made the following recommendation which was adopted by the Committee :—

"As the proposals in this scheme, to all intents, represent the contingencies or incidental charges of any seed extension scheme, the Sub-Committee is unable to recommend them."

SUBJECT 42.—*Seed Distribution in Madras Province—Reference from last meeting of the Committee.*

In January 1940, the Committee recommended that the Madras Government should take adequate steps for the production and distribution of large quantities of improved strains. The Provincial Government were informed accordingly and their reply stating the steps taken in the matter was considered by the Committee. It was decided that the Provincial Government should be informed that the efforts on seed distribution work should be intensified.

SUBJECT 43.—*Progress Report on Surat Seed Distribution Scheme.*

This scheme was first sanctioned in November 1929 for a period of two years, and was extended in December 1931 for another two years, pending the final decision of the Committee on the question of the cotton policy to be followed in the Surat area. In January 1934, after a thorough examination of the relative merits of *1A* and *1027 A. L. F.*, the Committee finally decided in favour of the latter, and extended the scheme for five years for the distribution of *1027 A. L. F.* seed in the Surat area. A further extension of one year was sanctioned in November 1938 and again in August 1939 for three years from the 1st April 1940.

During the year under report, the Department of Agriculture controlled a seed multiplication area of 17,874 acres and handled 22,73,633 lbs. of seed.

It is reported that as a result of the amendment of the Bombay Rules under the Cotton Transport Act, 1923, restricting the importation of inferior types of cotton south of Tapti, there was a good demand for *1027 A. L. F.* seed, with the result that all co-operative societies in Olpad and several other people changed their policy in favour of *1027*.

The following report of the Agricultural Research Sub-Committee was adopted by the Committee :—

"With regard to this scheme, the Sub-Committee reiterates the need for the amended Cotton Control Act to be applied to the whole area lying south of the Narbada as soon as possible.

The Progress Report is approved."

SUBJECT 45.—*Progress Report on Broach Cotton Breeding Scheme.*

This scheme was sanctioned in December 1931 for a period of five years. It came into operation in April 1932 and was extended in August 1936 for a further period of five years. Its original object was to obtain, by selection or hybridisation, suitable types of cotton possessing wilt-resistant, high yielding, high ginning and superior spinning qualities, to replace the local mixture, a large proportion of which consisted of *Goghari*, a short staple, variety with high ginning percentage. In view, however, of the Committee's policy to replace, wherever possible, short staple with medium and long staple cottons, attention is now being concentrated on wilt-resistance, high yield and fibre length.

The breeding of wilt-resistant types originally formed part of the Broach and Jalgaon Cotton Breeding Schemes but, as the testing of cotton strains was to be done under the optimum conditions of wilt infection, and, as experience showed that these conditions, especially soil temperature in pots, were difficult to maintain at Broach and Jalgaon, the work was transferred to Poona in June 1935.

The Agricultural Research Sub-Committee considered the progress report on the scheme and reported as follows :—

"The Sub-Committee considers that detailed tables might be omitted from the summary, that the particulars under 'Items of Investigation' on page 7 are largely a repetition of the programme of work for 1939-40 on page 3 and that some of the details with regard to yields of individual plots and analysis of variance might be omitted from the main report.

The Sub-Committee further observes :—

(1) That it is desirable that the Department should find funds to test varieties which have reached the stage of district trials.

(2) That only partial wilting occurred in the 'susceptible check' plot and no plants died (page 8).

It is open to question whether the wilt infection in that plot is sufficiently high and whether it relates to this year only or to previous years as well. If the latter, steps might be taken to induce high infection.

(3) That yield differences between wilt-sick and wilt-free soil (page 10) appear to be due to difference in fertility.

(4) That progeny bulk trials should be made, if possible, on wilt-infested soil also, as is being done for single plant progenies.

(5) That the conclusion on page 15 that Segregate *1-6* has given appreciably more yield than the local variety does not seem to be warranted.

(6) That there is a wide difference in percentage of immature fibre between *B. D. 8* (general) and *B. D. 8* (maintenance) on the one hand and the segregates on the other. This important point should be kept in view in the choice of segregates.

At Mr. Vonesch's suggestion, the Sub-Committee agreed to recommend that good Broach crosses with high ginning percentages, *i.e.*, round about 40, should be tried out on the Surat Farm.

Subject to the above remarks the Report is approved.

The Programme for 1940-41 is approved with the suggestion that it should include large plot scale trials on the farm as well as in the district.

Cotton Wilt Breeding Scheme.

"The Progress Report and the programme for 1940-41 are approved."

The recommendations of the Agricultural Research Sub-Committee were approved.

SUBJECT 46.—*Progress Report on Jalgaon Cotton Breeding Scheme.*

This scheme was sanctioned in December 1931 for a period of five years and was extended in August 1936 for a further period of five years. Its original object was to obtain, by selection or hybridisation, suitable wilt-resistant types with heavy yielding, high ginning and good spinning qualities to replace the local mixture of *N. R.* and *Banilla* cottons in Khandesh. Wilt breeding work was originally included in the Broach and Jalgaon Cotton Breeding Schemes, but, as the testing of cotton strains was to be carried out under optimum conditions of wilt infection and, as experience showed that these conditions, especially soil temperature in pots, were difficult to maintain at Broach and Jalgaon, the wilt work was transferred to Poona in June 1935.

The work done during the year under review indicated that in the trials of *Jarila* and local cotton, conducted at 36 centres in Khandesh, *Jarila* gave higher yields than local in 20 centres, lower in 7 and equal in the remaining 9. The ginning percentage of *Jarila* ranged from 32 to 35·5. The samples of *Jarila* from Bhadgaon and Dhulia farms gave 26 to 30 highest standard warp counts, as against 27 to 39 last year.

The Progress Report on the scheme was considered by the Agricultural Research Sub-Committee which reported as follows :—

"In reply to a query on *Dokras* cotton, it was explained that it was originally a mass selection made by Mr. Dokras at Chandur and appeared to contain some useful components. In Cross 2 (*Jarila* × *N. R. 5*), it was pointed out that while the staple length of the selections from this cross was about the same as the *jarila* staple length, the ginning percentage was in all cases higher than *Jarila* and it was asked if this were on account of a coarser fibre. The Technological Laboratory examination, which is in progress, will answer this question. It is understood that the study of botanical characters of parents and crosses will be cut down to essentials. The seriousness of root-rot in the Tapti Valley area is noted, also the astonishing difference in the spinning performance of *Banilla* in 1938-39 and 1939-40. The report is otherwise approved. In the 1940-41 programme, the Sub-Committee recommends that item (*iv*) village trials of *Jarila* and local cotton be carried out. The Sub-Committee considers that it is not desirable to make tests of these crosses in wilt-free soil, since the main object of making the crosses is to bring in wilt-resistance. Future work in connection with the new *Million Dollar*, the *Chinese R. 1 Spotless 51* would be carried out on the crosses made to bring their wilt-resistance into their progeny. The Sub-Committee desires to emphasise that when seeds are available, all the trials should be done on replicated progeny row system."

The recommendations of the Agricultural Research Sub-Committee were approved.

SUBJECT 47.—*Progress Report on Scheme for Improvement of Wagad cotton at Viramgam and Jagudan.*

This scheme, which has for its object the improvement of the *Wagad* cottons for (*a*) quality and yield and (*b*) earliness in order to escape frost, and the replacement, if possible, of the inferior *Mathio* cotton of Kathiawar by early *herbaceum*, was sanctioned by the Committee in August 1936 and came into operation on the 1st May 1937. The objects of the scheme are sought to be achieved by (*a*) selection in *Wagad* cotton, (*b*) hybridisation with Surti-Broach quality cottons like *1027 A. L. F.* and *B. D. 8* and (*c*) hybridisation with Iranian *herbaceums* known to be early and of better quality.

During the year under review, unit selections were made from 17 families of the local *Wagad* for yield, ginning percentage and lint length. Some promising selections and cultures from the F6 crosses, *viz.*, (*W 8* ×*B. D. 8*) and (*W26-2* ×*1027 A. L. F.*), respectively, were compared with local *Wagad*, *Wagad* 8 and segregate *4-1* and one selection and one culture appeared to be promising. Varietal trials of *Wagad 8*, Segregate *4-1* and local *Wagad* conducted over the last seven years have shown that Segregate *4-1* is superior to local *Wagad* and *Wagad 8* in ginning; and equal to *Wagad 8* in lint yield. At Jagudan, however, the trials with these strains have shown that *Wagad 8* and Segregate *4-1* are not superior to local *Wagad*.

The Agricultural Research Sub-Committee made the following observations on the Progress Report :—

"In this work it seems to be difficult to get anything better than *Wagad 8* although *N. 87-2*, *N. 89-2* and *H. S. B. 1* appear to be promising. As long as a close Boll Type is insisted on for this region, it appears unlikely that there can be much progress beyond these. The estimated Highest Standard Warp Counts given in table 4 are somewhat misleading, as they are likely to be considerably higher than the actual counts when spun. Segregate *4-1* has been valued considerably below *W8* and local *Wagad*. The report and next year's programme are otherwise approved."

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 48.—*Progress Report on Scheme for Improvement of Mathio cotton at Amreli.*

The object of this scheme, which was sanctioned in August 1936, for a period of five years, is the improvement of *Mathio* mixture in respect of yield, ginning percentage and quality, and secondly, to test, at Amreli, the early strains of *Wagad* evolved at Viramgam, with a view to finding out if the inferior *Mathio* can be replaced by early *herbaceums*.

During the year, ten *Mathio* families were tried in replicated progeny row test. 16 bulks of the *Mathio* families were tried against *C. 520* in a small scale replicated test; of these, families Nos. *9*, *10* and *15* were found to be promising.

The Progress Report on the scheme was considered by the Agricultural Research Sub-Committee, which reported on it as follows :—

"This scheme is an offshoot of the Viramgam Scheme. The carrying out of the progeny row tests seems to have been done under a slight misunderstanding, since the Segregate progenies are apparently rejected merely on the ground that

they are splitting. Variety *C. 402*, which is a delicate type, seems unsuitable for this area. It is unnecessary to give the analysis of variance of the adjusted yields and it is also undesirable to give the plot yields in *tolas* and the significant difference in lbs. per acre. The Report is otherwise approved."

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 49.—*Progress Report on Scheme for Improvement of Kumpta Cotton in Hyderabad State.*

This scheme, which was sanctioned in August 1936, for a period of five years, has for its object the development of certain strains of *Kumpta* cotton that had been bred from the local variety of Raichur by the Cotton Research Botanist, Parbhani. The scheme came into operation in November 1937.

During the year under report, comparative trials were conducted, according to the randomised block method, with the most promising new strains, their parent variety and the imported types like *Hagari*, *Nandyal 14* and others. Of the new strains tested at Raichur, *R. K. 15* gave a significantly higher yield and better ginning outturn than the other new strains and the imported types. *R. K. 19* maintained its drought resistant and spinning qualities. Amongst the imported types from Mysore, Madras and Bombay, *K. 1* and Mysore strain *19* have been found to give a satisfactory yield.

The Progress Report on the scheme was considered by the Agricultural Research Sub-Committee which reported as follows :—

"In table 2 the following corrections should be made :—

Card Room Loss 1937-38, column 3, 7.4 and item 14 Grader's Valuation of Broach, column 4, 1936-37 Rs. 15 off instead of Rs. 25 off. The Sub-Committee is unanimously of the opinion that on account of its wilt susceptibility, *R. K. 15* should not be distributed, that *R. K. 19* should be tested for its wilt susceptibility or resistance and that attempts should be made at once to produce a *Kumpta* type with wilt-resistance.

Subject to the above remarks, the Report is approved.

The Sub-Committee also considered the following estimates* for work on wilt-resistance, put up by the Cotton Research Botanist, Parbhani, in consultation with the Director of Agriculture, Hyderabad, and recommends that the total estimated cost of Rs. 5,069 of this scheme should be shared equally between the Committee and the Hyderabad State."

The recommendations of the Agricultural Research Sub-Committee were approved.

SUBJECT 50.—*Progress Report on Scheme for breeding of Wilt-Resistant cottons in Surat area.*

This scheme, which was sanctioned in August 1936 for a period of five years and 7 months, has for its object the production of a strain of cotton completely resistant to wilt and suited to the natural conditions of the Surat tract. This is sought to be achieved either by selection in *1027 A. L. F.* or by crossing this cotton with *B. D. 8* or other wilt-resistant strains. The testing work during the year under report was done in the specially wilt infected plot at Shera. A few resistant cultures for crosses of *1027 A. L. F.* × *B. D. 8* and *Seg. 8-1* × *B. D. 8* were obtained.

The Progress Report was approved by the Committee.

*Not printed.

SUBJECT 51.—*Progress Report on Scheme for Interspecific Hybridisation in Cottons at Surat.*

This scheme was sanctioned by the Committee in January 1938, for a period of five years with the object of obtaining, if possible, fully fertile hybrids between Asiatic and American cottons possessing the desirable characters of both, particularly the good staple length of the Americans and the hardiness and adaptability to Indian climate of the Asiatics. The scheme commenced to operate in November 1938.

As the scheme had made rapid strides and given clear indications of the need for carrying out cytological studies on the spot, the Committee sanctioned an expansion of the scheme, so as to include cytological studies during the remaining period of its continuance.

During the year under review, back crossing and treatment with colchicine were reported to have been found effective in inducing fertility in the F_1 hybrids obtained from crossing Americans with Asiatic cottons.

The Agricultural Research Sub-Committee, which considered the Progress Report, made the following remarks :—

"The Report and programme for 1940-41 are approved. The work is regarded as of very considerable interest both scientifically and practically."

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 52.—*Progress Report on scheme for Cotton Jassid Investigation in the Punjab.*

This scheme was sanctioned in March 1937 for a period of three years and came into operation on the 1st April 1937. Its object is to study the jassid insect in the Punjab as regards its habits, alternative host plants and characters of the cotton plant which determine resistance to the pest.

It was reported that the observations made during the year on the incidence of the pest on the commercial varieties have once again revealed that *289F/K. 25* is highly susceptible to jassid attack and that late sown cotton was definitely more susceptible to the attack.

The Agricultural Research Sub-Committee considered the Progress Report and recommended as under :—

"It was explained that the reasons why only the effects of early and late sowing and no other agronomic factors are stated, was due to the breakdown of the water measuring apparatus. The loss of jassid resistance in the Cross *Tanguis* × *U. 4* was not yet susceptible of explanation. The Cross had never grown well from the beginning, although when new, it had resisted jassids. It was hoped to have pure *Tanguis* for testing next year. It was not yet known whether the other species of jassids found this year were equally noxious. This will be taken up in the following year. Regarding the effect of jassid attack on the plant, the Sub-Committee considers that the types grown for this purpose should include those known to be resistant and those known to be very susceptible. In order to avoid the abnormal conditions obtaining by growing plants in cages, it is suggested that, in addition to caging to keep off jassid attack, spraying should be utilised as another method of getting jassid-free plants. The Sub-Committee also recommends that an attempt should be made to deal statistically with the results of jassid population studies on the different varieties."

The recommendations of the Agricultural Research Sub-Committee were approved.

SUBJECT 53.—*Progress Report on Scheme for inclusion of Northerns and Westerns in the programme of work of Dry Farming Scheme at Bijapur.*

The Agricultural Research Sub-Committee, at its meeting in August 1935, while considering the subject of the possibility of growing long and medium staple cottons in the short staple cotton areas of India, expressed the view that in short staple cotton areas, like the Bijapur district in the Bombay Province and the Raichur and Gulbarga districts of the Hyderabad State, where the rainfall is limited and precarious, a solution of the problem confronting the successful growing of medium and long staple cottons might be found in devising suitable dry farming methods for the cultivation of cotton. A scheme for this purpose was accordingly sanctioned by the Committee in August 1936 for a period of one year, in the first instance, and came into operation on the 1st June 1937. It was extended in July 1938 for a further period of three years.

The main work during the year consisted in finding out the comparative performance of 4 varieties, *viz.*, H_1, N_{14}, *Jayawant* and the local *Kumpta* and the effect of different manures on them and in field scale trials of Northerns and Westerns under the Bombay Dry Farming method against the local cultivators' method. Experiments were also conducted on the value of different factors such as preparatory tillage, bunding and mulching, spacing, rotation, fallowing and green manuring.

The Agricultural Research Sub-Committee considered the Progress Report on the scheme and reported as under :—

"The Sub-Committee considers that there should be some economic comparison of the dry farming and local methods in these experiments. So far as this year's work is concerned, the main effect seems to have been due to the addition of farm yard manure; the other components of the dry farming method do not seem to have had any marked effect. As regards soil moisture, the amount in the soil appears to have been greater under the cultivator's method than under the dry farming method. The actual planning of the experiments and of the methods used appears susceptible of improvement. In experiment 2, for example, the operations were done in June and the crop was put in in August and there must have been a good deal of rain between these two periods. In experiment 4 with spacing, the question was raised as to how the local spacing was arrived at—by drilling or by controlling and thinning. In experiment 3 to assess the value of bunding and mulching, it was pointed out that the so-called bunding had also one mulch and the so-called flat treatment had also one mulch. In experiment 5 the rotation *jowar* after cotton appears to be the same as cotton after *jowar*, and the question was also asked as to what was the local practice of rotation. Regarding green-manuring, it was enquired whether this was really a practical procedure in a dry area. On page 6, the results reported regarding varieties were not borne out by the figures in the table given later. With regard to the variety *N. 14*, it was also enquired whether this was a variety likely to find a place in the normal agriculture of the area. The Report and the programme are otherwise approved."

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 54.—*Progress Report on scheme for inclusion of Northerns and Westerns in the programme of work of Dry Farming Scheme at Raichur.*

The object of this scheme is similar to that stated in subject 53. It was sanctioned for a period of one year in January 1937 and started in September 1937. It was extended in July 1938 for a period of three years.

During the year experiments were carried out under the following heads :—(1) Manurial *cum* varietal experiment. (2) Tillage experiment. (3) Bunding experiment and (4) Observations to test the superiority of varieties.

The results of the experiments are not yet conclusive. Under item (4), two local strains *R. K. 15* and *R. K. 19*, which were included in this year's trials, proved superior to the rest in respect of yield.

The Agricultural Research Sub-Committee considered the Progress Report on the scheme and reported as under :—

"It was pointed out that the dibbling of seed 24 inches apart used in the manurial *cum* variety experiment was not the local practice. With regard to the bunding experiment, there were too few replications, the lay-out was unsatisfactory and the taking of 1/8th of an acre in the middle of 1/3rd acre on experimental plot was also unsatisfactory. It was understood that manure had been added to all the plots.

Appendix No. C.1—This also vitiated the experiment.

With regard to the varieties, it was queried why *H. 1* should be used which does not do well on the farm.

In Appendix A.2, it was considered unnecessary to indicate the critical difference when no result was significant. The Report and the Programme are otherwise approved."

The Report of Agricultural Research Sub-Committee was adopted.

SUBJECT 55.—*Progress Report on Scheme for maintenance of nucleus of pure seed of improved varieties of cotton in Bombay Province.*

The scheme for the maintenance of a nucleus of pure seed of each of the following seven varieties of cotton grown in Bombay Province was sanctioned in August 1937 and came into operation in 1937-38 season :—

(1) *1027 A. L. F.* on Surat Farm,
(2) *B. D. 8* on Broach Farm,
(3) *Jarila* cotton on Bhadgaon Farm,
(4) *Jarila* cotton on Jalgaon Farm,
(5) *Jayawant* cotton on Dharwar Farm,
(6) *Gadag No. 1* cotton at Gadag, and
(7) *Banilla* cotton at Kopergaon Farm.

The Progress Report was considered by the Agricultural Research Sub-Committee which reported on it as follows :—

"Since several seed distribution schemes are running in connection with varieties that have also got a nucleus seed scheme, it was felt that there was a certain amount of overlapping between these two and it was decided that a note should be put up on the whole question for consideration at the next meeting. The Sub-Committee noted that very high seed rate of 20 lbs. per acre was being used to sow this expensive seed and suggested that it would be cheaper to dibble. The Director of Agriculture, Bombay, undertook to look into this matter. In reply to an enquiry as to what was done with the 100 lbs. of seed handed over to the Managing Director of the Cotton Sale Society and the 400 lbs. handed over to the Rural Development Department, it was stated that the seed in question was handed over to the Society at the request of the Rural Development Department after the change in the administration of district work of the Agricultural Department. The Report is otherwise approved."

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 56 (*a*)—*Model Projects for extension of improvements in cultivation of crops in the United Provinces.*

Revised proposals for the above scheme covering a period of five years were considered by the Agricultural Research Sub-Committee and its recommendations were as follows :—

"Dr. B. L. Sethi presented a revised model project scheme* which is attached. The Sub-Committee approves the scheme in its revised form and recommends that, as in the other project schemes, the United Provinces Government should bear half the cost. In regard to the provision for staff, it was agreed that the strength should be similar to that proposed for the Central Provinces scheme. It was also emphasised that the scheme should be carried out in a compact block and that it should take into account not only cultivable land but also grazing land, waste lands, etc., and the problems of soil erosion, bunding, etc."

The recommendations of the Agricultural Research Sub-Committee were approved.

SUBJECT 56 (*b*) *Model Projects for extension of improvements in cultivation of crops in the Central Provinces and Berar.*

Proposals for the above scheme for a period of three years were considered by the Agricultural Research Sub-Committee and its report, as amended and adopted by the Committee, is as under :—

"Mr. McDougall informed the Sub-Committee that the Central Provinces Government were prepared to bear half the cost of this scheme. The scheme was approved, subject to the omission of the provision of Rs. 360 on account of rent of office and godown. In order to arrive at the profits to the cultivator, it was agreed that interest on capital cost of implements should also be taken into consideration."

SUBJECT 57.—*Model Projects for extension of improvements in cultivation of crops in Surat District—Reference from the Government of Bombay.*

The Committee, at its meeting held in January last, considered proposals for a model project scheme in the cotton tract of the Surat District, for a period of five years, and sanctioned the scheme for three years only.

The Agricultural Research Sub-Committee considered a request from the Bombay Government for a reconsideration of the Committee's decision in respect of the period of the scheme, and its report on it, as adopted by the Committee, is as follows :—

"The Sub-Committee recommends that the scheme should run for five years. It agrees with the view expressed by the Sectional Sub-Committee that some method was necessary to estimate the financial results of such a scheme, but that it need not be anything like so detailed as the method used for enquiry into the cost of production of cotton and sugarcane in India. The Sub-Committee was uncertain as to whether the economic survey suggested by the Bombay Government would be sufficiently accurate for this purpose. Mr. Jenkins explained that as the Committee wanted accounts to be kept not only on the 200 acres under the scheme but also on another 200 acres adjoining, but outside the scheme, this could not be done by one Graduate Assistant, and that he had, therefore, as an alternative, suggested to the Government of Bombay that this should be substituted by periodic economic surveys of the conditions of the cultivators under the scheme. The Sub-Committee, however, decided that accounting need not be more than would give a confirmation or otherwise of the estimates of increased production and increased profits."

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* Not printed.

SUBJECT 58.—*Progress Report on United Provinces Botanical Scheme.*

This scheme was sanctioned in January 1938 for a period of 5 years and came into operation in August 1938. Its object is to develop improved strains of *Bengals* cottons for the rainfed and irrigated tracts of the United Provinces from the material collected in the course of the survey of cottons in Rohilkhand and Bundelkhand. Concurrently, the suitability of the United Provinces improved cottons—*C. 402, C. 520* and *Perso-American* against local and other promising introductions is being tested, both on Government farms and on cultivators' fields. In addition, the possibilities of American cottons under the United Provinces conditions are being investigaged.

C. 520, an improved *desi* strain, is said to be gaining in popularity owing to its general superiority, both in respect of yield and quality over the local growths. The performance of *Perso-American* during the last few years is encouraging.

The Agricultural Research Sub-Committee considered the Report and made the following recommendations :—

"It was recommended that in a report of this kind it would be better to relegate all the tables to the end. From the survey material of 1933-34, it looked as if there was practically nothing likely to be an improvement on *C. 520* except some few families from the survey collection. The history of the *Perso-American* variety originally introduced by Dr. Leake and its very much higher yield over the types that it replaced was explained. The need, if possible, to have more than four replications in order to try and get significant differences between varieties was mentioned. It was emphasised that attention should be concentrated on indigenous types rather than on *Perso-American* ones. Subject to these remarks, the Report is approved."

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 59.—*Progress Report on Scheme for Cotton Jassid Investigation in Sind.*

The scheme was sanctioned in August 1937 for the purpose of making a detailed study of jassid attack and its prevention in Sind. It came into operation in May 1938.

During the year, the several conditioning factors of jassid attack and the relative resistance of the local varieties were investigated. Hairy varieties like *4F-98*, were found to be, comparatively speaking, highly susceptible to jassid attack. However, it is stated that hairiness cannot be regarded at present to be a very reliable character in determining resistance of the plant.

The Agricultural Research Sub-Committee considered the Progress Report and made the following recommendations :—

"The Sub-Committee considered the Progress Report for 1939-40 and the programme of work for 1940-41. The Sub-Committee desires to stress the need for close collaboration among the staff engaged on this scheme, the Botanist in Sind and the Officer-in-Charge of the scheme for the production of long stapled cottons in Sind recently sanctioned by the Committee. There does not appear to be sufficient evidence in the report to justify the general conclusion made on page 2 regarding the relationship between "hairiness" of the plant and Jassid resistance. The Sub-Committee considers that there is further need for investigation of the factors involved in the term "hairiness" and suggests that if facilities are available, such investigation should be undertaken both in the scheme under consideration and in the "Scheme for cotton Jassid investigation in the Punjab"; in any

case, this aspect of the problem should not be overlooked. The Sub-Committee noted the remarks regarding the possibility of Jassids injecting toxic substance into the plant while feeding and agreed that this aspect of the problem also requires further investigation. It suggests that this subject might be referred to Dr. Uppal in connection with his study of insect vectors in relation to plant virus diseases.

Subject to the remarks made above, the Sub-Committee recommends that the Report be adopted."

The recommendations of the Agricultural Research Sub-Committee were accepted.

SUBJECT 60.—*Progress Report on Scheme for investigation into Black-headed Cricket in Sind.*

This scheme was sanctioned in January 1938 for a period of three years with the object of establishing the identity of the pest and studying its life history, seasonal behaviour and the extent of the damage caused by it as a preliminary to the introduction of control measures. The scheme started in September 1938.

During the year under report, four species of crickets were found to attack cotton seed and seedlings. The commonest and the most virulent has been identified as *Gryllulus domesticus* Linn, and is being studied in detail. The pest causes damage to cotton not only directly by destroying the seed and seedlings, but also indirectly by limiting the extension of the crop.

The Agricultural Research Sub-Committee made the following observations on the Progress Report which was considered by it :—

"The Sub-Committee considers that further work on the estimation of the damage caused by the Black-headed Cricket in Sind is not likely to yield useful results, as the present year's report indicates that it is a serious pest in the cotton-growing areas on the Right Bank. Accordingly, the Sub-Committee is of the opinion that this part of the future programme of work should be replaced by preliminary work on the investigation of suitable control measures, special attention being given to recent literature dealing with control measures against locusts which might indicate suitable lines of experimental work in connection with the pest under consideration. The Sub-Committee notes that the report is not signed and recommends that instructions should be issued that all progress reports should be signed by the officer responsible for their preparation and writing."

The recommendations of the Agricultural Research Sub-Committee were accepted.

SUBJECT 61.—*Proposal for co-ordination of research on Black-headed Cricket in Sind and Baluchistan—Letters from Government of India and Director of Agriculture, Sind.*

The Committee considered proposals for a scheme for investigating the extent of damage and methods of control of the Black-headed Cricket in Baluchistan and sanctioned it in August 1939 for a period of two years. As, however, the scheme could not be put into operation owing to the retrenchment of the Entomological staff in Baluchistan, proposals were submitted for the restoration of the staff. These, together with proposals for effecting co-ordination between this scheme and the corresponding scheme in Sind, were considered by the Agricultural Research Sub-Committee, which reported on them as follows :—

"The Sub-Committee considered the proposal for the co-ordination of research on Black-headed Cricket in Sind and Baluchistan and recommends that the Director of Agriculture in Sind and the Agricultural Officer, Baluchistan, should be asked to work out and submit a scheme for the co-ordination of the entomological work

in both areas. It is suggested that the Entomologist in charge of the present scheme in Sind might take charge of a combined scheme covering entomological work both in Sind and Baluchistan. Special attention should be given to the relationship between the incidence of the pest in Baluchistan and its spread into Sind and to methods of control and prevention which might be adopted both in the affected areas and in the prevention of the migration of the pest from one tract to another. If the Director of Agriculture put up revised proposals for a combined scheme for consideration by the Committee at its next meeting, there would be ample time for the control measures to be given effect to in the following season."

The recommendations of the Agricultural Research Sub-Committee were accepted.

SUBJECT 62.—*Progress Report on Scheme for investigation of Heliothis obsoleta as a pest of cotton in the Central Provinces and Berar.*

This scheme was sanctioned by the Committee in January 1938 for a period of one year, with the object of determining (1) whether *Heliothis obsoleta* attacking cotton in the Central Provinces and Berar is the same pest as the common gram caterpillar or a special race of the species which attacks cotton in particular, (2) whether it is identical with the American bollworm of cotton and (3) whether it is likely to prove a serious pest of cotton in the Central Provinces. The scheme came into operation on the 25th June 1939 and was extended for a period of five months from the 25th June 1940.

During the year under report, observations made at Akola on the pest revealed that infestation of cotton occurred between July and November. While the exotic *buri* suffered to some extent, the indigenous *verum* was practically unaffected. The study of the migration of caterpillars from one host to another showed that change of food did not affect the development of the caterpillar.

The Agricultural Research Sub-Committee considered the Progress Report and made the following recommendations :—

"The Sub-Committee notes that this scheme was instituted in order to obtain definite replies to certain specific points in connection with the pest of *Heliothis obsoleta*. These points were (1) whether *Heliothis obsoleta* attacking cotton in the Central Provinces and Berar is the same pest as the common gram caterpillar or a special race of the species which attacks cotton in particular, (2) whether it is identical with the American bollworm of cotton and (3) whether it is likely to prove a serious pest of cotton in the Central Provinces. With regard to (1) or (2) above, the progress report submitted does not supply a definite answer and special attention should be devoted to these particular points in the final report. With regard to the programme of work proposed for the period July to November 1940, the Sub-Committee considers that items 3 and 4 under "Identity of *Heliothis obsoleta*" should be omitted, as such items do not appear to have any direct bearing on the specific problems under investigation."

The Sub-Committee recommends the adoption of the Report subject to the remarks made above.

The recommendations of the Agricultural Research Sub-Committee were accepted.

SUBJECT 63.—*Final Report on Hyderabad Pink and Spotted Bollworm Scheme.*

The revised final report on this scheme received from the Hyderabad Government was, in accordance with the decision of the Committee at its last meeting, sent to the Imperial Entomologist for opinion. The Report will be considered together with the opinion of the Imperial Entomologist at the next meeting.

SUBJECT 64.—*Progress Report on Hyderabad Bollworm Clean-up Scheme.*

This scheme, which is an offshoot of the Hyderabad Pink and Spotted Bollworm Scheme, was sanctioned by the Committee in August 1936 for a period of two years from the 1st October 1936 and came into operation on the 1st October 1937. In August 1939, an extension was sanctioned for a period of 18 months up to the 31st March 1941.

The object of the scheme is to demonstrate the efficiency and practical value of the control measures against the Pink and Spotted Bollworms in a compact area of 400 square miles in Nanded District.

During the year under report, the clean-up work was carried out in most of the area by the 15th March and the ginning of all *kapas* in the treated area completed by the close of April. The growing of the alternative host plants, *bhendi* and *ambadi*, was successfully prevented. To compare the effects of early and late clean-up on the incidence of bollworms in the succeeding crop, an area of about 50 sq. miles growing *Gaorani 6* was cleared late in the season.

The Agricultural Research Sub-Committee considered the Progress Report on the scheme and made the following recommendations :—

"The Sub-Committee considered the Progress Report on the above scheme nnd noted that, during both the cotton-growing seasons for which the scheme had been in force, the early rainfall and general climatic conditions were not favourable to the development of the bollworm pest. However, even in such seasons, there were indications that the incidence of the pest was reduced in the treated as compared with the untreated areas. There are indications that in the present season the rainfall is likely to be late and, if so, suitable conditions for the intensification of boll-worm attack will be obtained and accordingly definite information as to the effect of this on the control measures will be available. Accordingly, the Sub-Committee recommends that the scheme should be extended as agreed to for a further period of 18 months from the 1st October 1939 to the 31st of March 1941 so that, in all, three cotton-growing seasons can be dealt with in the final report. The Sub-Committee suggests that the final report should also indicate the steps which the Hyderabad Government propose to take to continue the work of controlling the pest hereafter, and that special attention might be given to the possibility of altering the ordinary time of cultivation of alternative vegetable host plants, *e.g.*, *bhendi* and *ambadi*, and to extending the practice of sun-heating of *kapas* as an aid to future control measures against the pest. Subject to the remarks made above, the Sub-Committee recommends the adoption of the Report."

The recommendations of the Agricultural Research Sub-Committee were accepted.

SUBJECT 65.—*Scheme for Production of long staple cotton in Sind—Programme of work for* 1940-41.

This scheme was sanctioned by the Committee in March 1939 for a period of five years with the object of investigating the possibilities of producing a cotton with a staple longer than $1\frac{1}{16}$" and spinning about 60 counts and yielding not less than 6 *maunds* per acre.

The Agricultural Research Sub-Committee considered the programme of work on the scheme, and its report, as amended and adopted by the Committee is as follows :—

"The Sub-Committee considered the programme of work under the above noted scheme and is of the opinion that it should be restated on the under-noted lines :—

(1) The breeder's aim should be to produce a cotton plant having :—

(*i*) a staple of not less than $1\frac{1}{16}$",

(*ii*) a spinning capacity of 60's warp counts or better, and

(*iii*) a high acre cash value of *kapas* relative to commercial cotton crops now being grown in Sind.

The Sub-Committee further considers that special regard should be paid to the undernoted main factors which determine the acre cash values of *kapas* under conditions at present obtaining in Sind (assuming agronomic practices to be in order) :—

(*a*) High relative resistance to jassids, termites and *tirak*,

(*b*) High ginning outturn,

(*c*) Earliness and

(*d*) Retentivity of early flowers.

(2) With regard to major agronomic experiments, the Sub-Committee is of the opinion that such work should be primarily concentrated on the investigation of the economics of ridge *versus* flat cultivation in collaboration with the Research Division of Irrigation Department in Sind. Complex factorial manurial experiments should not be undertaken to commence with but should be instituted as soon as standard experiments for irrigated cotton have been laid down by the Indian Central Cotton Committee. For the above agronomic experiments, Sind *Sudhar 289F* or Sind *Sudhar M. 4* should be utilized only until a promising new selection, which meets the requirements of the scheme, is available for test.

(3) The Sub-Committee considers that an immediate soil survey of the proposed breeding station should be undertaken in collaboration with the Agricultural Chemist in Sind. Soil sample bores should be taken from each foot depth to a maximum depth of 10′ from each ½ (half) acre plot over the whole of the research station and particular note made of sodium clay content ; analysis of soil samples should otherwise be limited to physical properties and total salt contents. Arrangements should be made to watch the movement of sub-soil water table by the installation of the necessary number of sub-soil water tubes as determined in consultation with the Research Division of the P. W. D., Sind. The additional cost involved in giving effect to these recommendations should be borne by the Provincial Government.

(4) The Sub-Committee suggests that work on inducing polyploidy should be carried on in collaboration with the Interspecific Hybridisation Scheme at Surat and that material for such work should be supplied to Surat by the Officer-in-charge of the Sind Scheme."

SUBJECT 66.—*Progress Report on Scheme for maintenance of nucleus of pure seed of improved varieties of cotton in Sind.*

The scheme for the maintenance of nucleus of pure seed of the following five improved varieties of cotton grown in Sind was sanctioned in August 1937, and came into operation in April 1938 :—

1. Sind *N. R.*,
2. Sind *Sudhar*,
3. *4F-98*,
4. *Sea Island 2-4*, and
5. *Boss III-16*.

The following Report of the Agricultural Research Sub-Committee was adopted :—

"The Sub-Committee desires to draw attention to the failure to obtain the requisite amount of selfed seed which it was proposed to maintain under the arrangements made under the scheme. The Sub-Committee considers that in schemes for the maintenance of nucleus of pure seed of improved varieties, special attention should be given to the selection of the best land for such work, to the optimum cultural treatments and to all factors which will ensure the fullest development of the crops and the maximum amount of flowers for selfing. It is suggested that the area proposed for selfing under different varieties in the Sind Scheme is too small and should be increased by 25 per cent. as an insurance against such low yields as were obtained in the case of Sind *Sudhar* during the year under report. The Sub-Committee further recommends that the maintenance of nucleus of pure seed of the improved varieties—*Sea Island 2-4* and *Boss III-16*—should be transferred to the Officer-in-charge of the scheme for the production of long staple cottons in Sind."

SUBJECT 67.—*Progress Report on Scheme for Extension and Marketing of V. 434 cotton in Central Provinces and Berar.*

In November 1929, the Committee sanctioned a seed distribution scheme for the extension of *Verum 262* cotton in the Central Provinces and Berar for a period of one year, in the first instance. This scheme came into operation in September 1930, and was extended annually up to the end of July 1934 when it was combined with a newly sanctioned scheme for the extension of long staple cottons in the Central Provinces, in pursuance of the Committee's policy to encourage medium and long staple cottons in short staple areas, as far as possible. The combined scheme, known as the 'Scheme for Extension of long staple cotton and Marketing of *Verum* cotton in the Central Provinces and Berar was sanctioned for a period of five years, but, at the meeting of the Committee held in July 1938, it was decided that the title of the scheme should be changed to 'Scheme for the Extension and Marketing of *V. 434* cotton' and the scheme continued until 31st May 1941.

The aim of the present scheme is to increase *V. 434* cotton, in seven *taluqs* where *Verum* has made most headway in the past, by at least five times during the currency of the scheme, the ultimate aim being to eliminate all other varieties as far as possible. The area under *V. 434* in the whole Province in 1938 was 62,032 acres. In 1939, it went up to 86,076 acres in the selected *taluqs* and, in addition, there were 52,349 acres in other parts of the Province. This brings the total area of *V. 434* to 1,38,425 acres in 1939. As a result of the pooling operations in 1939-40, 7,081 *khandis* of pure seed were collected and distributed. The total number of bales pooled and sold by the marketing section was 8,246, out of which 7,744 bales were of *V. 434*.

The comments of the Agricultural Research Sub-Committee on the progress report are given below :—

"The Sectional Sub-Committee which considered this report suggested that the method of indicating the benefit to cultivators by multiplying the estimated premium per unit of weight by the total production of the improved variety was not entirely sound and required to be reconsidered and that this general recommendation applied not only to the scheme under consideration. The Sectional Sub-Committee further recommended that in all such schemes of seed distribution and extension, some indication should be given of the progressive development either by area or by weight which was anticipated annually so that some basis might be afforded upon which to estimate the extent to which the working of the scheme had proved successful. The Sub-Committee, however, recommends that consideration of this matter should be put off to the next meeting when the forms suggested by Mr. Roger Thomas will come up for discussion.

The Progress Report is, however, approved."

The recommendations of the Sub-Committee were adopted.

SUBJECT 68.—*Progress Report on Scheme for Distribution and Marketing of Buri 107 cotton in Burhanpur Tahsil, Central Provinces.*

The above scheme was sanctioned by the Committee in July 1938 for a period of three years and came into operation on the 1st November 1938. Its object is to introduce *Buri 107*—a selection from acclimatised *Gossypium hirsutum* developed under the Central Provinces Botanical Research Scheme—in Burhanpur Tahsil of Nimar District, where the total area under cotton is about 75,000 acres. Commencing with an area of 2,000 acres in 1938-39, the programme is to raise the area under this cotton to 10,000 acres in 1939-40 and 30,000 acres in 1940-41.

During the year under report, 408 bales of cotton were sold through the Departmental Pool Organisation, the average premium obtained being Rs. 34 'on' Broach and Rs. 60-11-0 'on' Oomras.

The Progress Report was approved.

SUBJECT 69.—*Progress Report on Scheme for maintenance of nucleus of pure seed of improved strains of cotton in Central Provinces and Berar.*

The scheme for the maintenance of a nucleus of the following improved varieties of cotton in the Central Provinces and Berar was sanctioned in July 1938, and came into operation on the 1st April 1939 :—

(1) *V. 434.*

(2) Late *Verum.*

(3) *No. 438.*

(4) *Buri 107.*

The Progress Report was approved.

SUBJECT 70.—*Progress Report on Baroda (Navsari) Seed Storage Scheme.*

The object of this scheme is to popularise *1027 A. L. F.* in the Navsari district of the Baroda State. It was sanctioned in February 1933, for a period of five years and started to operate in April 1934. In July 1938, the scheme was extended for a further period of five years.

During the year under report, 38,908 lbs. of pedigreed seed were issued to 'A' class growers for sowing on an area of 2,833 acres ; 2,39,870 lbs. of pedigreed seed to 'B' class growers for sowing on an area of 13,860 acres and 187,563 lbs. of pedigreed seed to 'C' class growers for sowing on 9,141 acres. The produce of the improved seed was ginned and baled at selected centres, and stamped with AGMARK before selling. 6,745 bales of lint were sold at a premium varying from Rs. 5 to Rs. 20 per *khandy.*

The observations of the Agricultural Research Sub-Committee on the Progress Report are given below :—

"The Sub-Committee considers that the Progress Report indicates that the time is now ripe for the application of legislative measures to ensure the exclusion of inferior cottons from the areas which are now being devoted to extensive cultivation of *1027 A. L. F.* cotton both in Baroda and in Bombay Province. Such legislation should be accompanied by adequate sale organization to ensure the growers of the better varieties obtaining adequate premia. The Sub-Committee recommends the Report for adoption."

The Report of the Sub-Committee was adopted.

SUBJECT 71.—*Progress Report on Sind Seed Distribution Scheme.*

"This scheme was sanctioned in December 1930 for a period of three years, was extended in August 1933 for a further period of five years and again in November 1938, for two years.

The objects of the scheme are various and include :—

(*a*) Varietal tests of improved strains of Sind-American cottons.

(*b*) Trials of high quality Egyptians and imported American cottons.

(*c*) Demonstration of cotton cultivation on non-cotton growing areas of new barrage lands.

(*d*) Seed multiplication, distribution and extension work.

(*e*) Propaganda, demonstration and advisory work in connection with the extension of improved varieties of cotton and methods of cultivation.

(*f*) Assistance to cotton growers in marketing cotton.

The work during the year continued on the lines of the previous year ; there were 4,67,000 acres under improved varieties, representing 52% of the area under cotton in Sind, against 4,98,500 acres representing 54% of the area in the previous year. 8,214 mds. of Sind *N. R.*, 33,190 mds. of Sind *Sudhar* and 7,293 mds. of *4F-98* were distributed during the year, against 15,052 mds. of Sind *N. R.*, 31,518 mds. of Sind *Sudhar* and 8,562 mds. of *4F-98* distributed last year.

The Agricultural Research Sub-Committee considered the Progress Report and reported as follows :—

"The Sub-Committee considered the Progress Report in detail. It was agreed that in any extension which may be granted under this scheme, the report should be definitely divided into sections (*a*) Propaganda and Demonstration, (*b*) Seed Multiplication and Extension and (*c*) Cotton Marketing, so that these aspects of the work which is being done under the scheme could be considered separately. The Sub-Committee is also of the opinion that it is not necessary to submit three reports—one general and one each dealing with the working on the Right and Left Banks—but that a combined report dealing with the work of the scheme as a whole would be sufficient. It is noted that none of the three reports submitted for the consideration of the Sub-Committee has been signed by the authors. The Sub-Committee feels that the report indicates a tendency for work under the scheme on the research and experimental side to have been too emphasised which was never intended when the original scheme was framed. The Sub-Committee is further of the opinion that several of the conclusions laid down in the report have been arrived at on inadequate data ; for instance, the statement that *4F-98* cotton is the best suited variety for the whole of the Right Bank is by no means supported by the figures of average yield per acre given for a number of centres and for a number of years in connection with trial plots on the Indus Right Bank. One member of the Sub-Committee, *Dr. Chellaram Shewaram*, questioned the accuracy of the statement made that marketing difficulties contributed to the decrease of the cultivation of *4F-98* cotton on the Right Bank and was of the opinion that the view given in the paragraph at the top of page 7 in this connection was incorrect. The Sub-Committee agreed that the results of experimental work hitherto conducted under this scheme should now be brought together and subjected to statistical analysis and that the results of such an examination should be reported in the final report on the scheme. It was also noted that in certain tables given in the progress report, *e.g.*, at the top of page 6, figures were inserted without any indication of the unit of weight to which they refer being given. Such omissions should be avoided in future. The Sub-Committee questioned the accuracy of the statement in para 5 on page 9 of the report to the effect that the produce of registered seed-growers had to be ginned in the Government factory. The Sub-Committee understands that no such condition is attached to registered seed-growers working under departmental guidance. It is suggested that the nomenclature of the improved cotton *4F-98* should be changed as the association of this improved cotton with *4F* acts as a deterent to obtaining an adequate premium for its superior quality. The Sub-Committee considers that the opinion of the Director

of Agriculture, Sind, should be obtained as to whether he is agreed that the ameliorative measures suggested against white-ant and root rot at page 19 of the scheme, will have a definite effect in checking these respective pests and diseases. Subject to the remarks made above, the Sub-Committee recommends the report for adoption.'

The Report of the Sub-Committee was adopted.

SUBJECT 72.—*Sind Seed Distribution Scheme—Proposed extension of—.*

The Agricultural Research Sub-Committee considered proposals for the extension of the Sind Seed Distribution and Extension Scheme, for a further period of five years from the 1st April 1941. The recommendations of the Sub-Committee as adopted by the Indian Central Cotton Committee are as follows :—

"The Sub-Committee considered the proposals for the extension of the Sind Seed Distribution Scheme for a further period of five years from the 1st of April 1941 and recommends that the extension be granted subject to the undernoted remarks :—

(*a*) The Sub-Committee recommends that the question of financial assistance by the Indian Central Cotton Committee to the scheme should be limited to 33% of the pay of staff or of the incidental expenditure, provided the contribution thus made shall not exceed 15% of the total cost of the scheme, as recommended in another scheme.

(*b*) The Sub-Committee was agreed that it was undesirable that the grades of staff employed on the Committee's schemes should be recommended for lengthening as a matter of course when such schemes were extended and it emphasises the necessity of adhering to the principle already laid down by the Committee that the scales of pay to be applied to the staff of the Committee should correspond to those of the staff of Provincial Governments, discharging similar duties.

(*c*) With regard to staff, the Sub-Committee recommends the proposal for the substitution of a Junior Assistant by Senior Assistant under the Senior Cotton Superintendent. It considers that a uniform grade of Rs. 25-1-40 should be made applicable to all counters and *kamgars* under the scheme without, however, prejudieing the pay of employees already engaged for work under the scheme.

(*d*) The Sub-Committee is of the opinion that the staff under the scheme should not be asked to carry out scientific experimentation, as such work should now be undertaken by the expert staff of the Agricultural Department in Sind which forms the most suitable agency for such detailed scientific work. There would, however, be no objection to the continuance of demonstration plots laid down being supervised by the staff employed under the scheme or to the assistance of that staff being utilised to aid the expert officers in carrying out scientific experiments in the districts.

(*e*) The Sub-Committee noted with interest the statement made by Dr. Chellaram Shewaram that in the Nasir branch and other scattered areas there was an area which produced approximately 60,000 bales of cotton annually for which no work to determine the most suitable variety of cotton had been undertaken. The Sub-Committee is of the opinion that, in the extended scheme, efforts should be made to establish on a scientific basis definite recommendations for the cultivation of improved varieties of cotton in all tracts of Sind and to develop the supply of pure seed of the necessary improved types to enable the cotton cultivation in such areas to be expanded systematically.

(*f*) The Sub-Committee desires to draw attention to a previous recommendation of the Agricultural Research Sub-Committee that the favourable consideration of any proposal for the extension of the Sind Seed Distribution Scheme, beyond ten years, would be governed by the prior application of suitable rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act in Sind. It understands that steps are being taken by the Sind Government to give effect to this condition at a very early date. The Sub-Committee further notes the undertaking given by the Sind Government to the effect that at the termination of the extended period, adequate steps will be taken by Government itself to maintain the purity of the improved cottons cultivated in the areas in which the scheme has operated.'

(g) With regard to the objects of the scheme as set forth under para 8 at the foot of page 3, the Sub-Committee decided that object (3) should be amended to read "To improve the standard of cotton cultivation by demonstration plots with a view to increasing the yield."

SUBJECT 73.—*Research Students.*

The Agricultural Research Sub-Committee considered the Final Reports of Messrs. Chamanlal Mohan and Srinivas Rao Kaiwar and the proposal for extension of their scholarships and reported as follows :—

"The Sub-Committee recommends that the scholarships of Messrs. Chamanlal Mohan and Srinivas Rao Kaiwar should be extended to the end of March 1941 in order to enable them to complete the investigations upon which they are engaged in the interests of scientific knowledge. A further final report should be called for at the end of the extended period from the scholars in question. The present reports submitted should be considered as progress reports and recorded.

It was further decided that in fixing the period of scholarships and extensions crop sowing periods should be taken into account rather than the calendar year."

The recommendations of the Agricultural Research Sub-Committee were adopted.

SUBJECT 74.—*Foreign scholarship—Mr. V. G. Panse—Completion of training of.—*

The Secretary's note on the subject was recorded.

SUBJECT 75.—*Publication of Papers.*

(i) *List of papers sent to Imperial Council of Agricultural Research.*

The Secretary's note was recorded.

(ii) *'Improvement of Herbaceum Cotton in the Tinnies and Salems tracts'—Letter from Imperial Council of Agricultural Research.*

(iii) *'Final Report on United Provinces C. 402 Scheme'—Letter from Imperial Council of Agricultural Research.*

The Agricultural Research Sub-Committee which considered these subjects reported as follows :—

"The Sub-Committee considered the Secretary's notes and is of opinion that it is not necessary to publish the papers referred to as bulletins of the Indian Central Cotton Committee as they are likely to be utilized mainly by cotton research workers and copies can be made available on application to the Secretary, Indian Central Cotton Committee."

The recommendations of the Sub-Committee were accepted.

SUBJECT 76.—*Agricultural Research—General Progress Report.*

It was suggested that the Report might be re-edited and put in a form suitable for publication.

SUBJECT 77(a).—*Supervision and conduct of research schemes financed by the Indian Central Cotton Committee—Resolution by Ch. Shiva Manghal Singh—Reference from last meeting of the Committee.*

The Committee recorded the Secretary's note on this subject.

(b) *United Provinces Entomological Scheme—Proposal to dispose of Simon Heater.*

The Agricultural Research Sub-Committee reported on this subject as follows :—

"The Sub-Committee considered the letter received from the Director of Agriculture, United Provinces, and recommends that the Director of Agriculture,

United Provinces, should be requested to take over charge of the Simon Heater and maintain it on behalf of the Committee in serviceable condition, through the Agricultural Engineer to the United Provinces Government. The machine will remain the property of the Indian Central Cotton Committee."

The recommendation of the Agricultural Research Sub-Committee was adopted.

SUBJECT 78.—*Report of the Agricultural Research Sub-Committee.*

The Report of the Agricultural Research Sub-Committee, as amended, was adopted.

SUBJECT 79.—*Progress Report of the Director, Technological Laboratory, for 1939-40.*

The Technological Research Sub-Committee which considered the Report of the Director observed as follows:—

"The Sub-Committee considered the Progress Report of the Director, Technological Laboratory for the year 1939-40. In this connection, an enquiry was made as to the progress made in connection with the standardisation of the Indian linters. In reply it was stated that 23 samples of linters were obtained from various oil mills and factories and compared with the official graded samples of linters obtained from America. It was found that in several cases while the character of the sample corresponded to one or other of the standards, its colour was different, the Indian linters tending more towards greyish white, dirty yellow or dirty brown while the American standards were creamy white to reddish brown. The nature and type of the trash present in the two were also different; the American standards containing mostly fine trash, while the Indian samples contained, in addition, crushed and uncut seed, boll husks, stalk bits and large or peppery leaf. Some distinctive features were also observed between the samples obtained from the roller ginned and the saw ginned seeds. In the previous season there was quite a lot of trash in the Indian linters, but in the current season some of them matched with grades 2, 3 and even 1. The desirability of having a clear report indicating to what extent the Indian linters can be produced commercially in quality suitable for export and for the production of chemical cotton was emphasised. It was suggested that information should also be obtained regarding the extent to which Indian linters conformed to the American standards and the extent to which they were defective. It was pointed out that if Indian linters were found to be suitable for chemical cotton, the important question from the commercial point of view was to determine how they compared in cost with the American linters. Another point was how far the ginneries can make improvements so as to conform with the American standards. Full information on all these points was required, as well as in respect of the machinery used in the production of linters, the cost of production, the price per lb. free on rail at the main centres in India, etc. The Sub-Committee accordingly decided that a report should be issued covering these and other points as soon as the work on the 1939-40 season linters was completed. The Sub-Committee was further of the view that in order to keep in touch with the position of linters in America, it was desirable to obtain the 'U. S. Department of Agriculture, Bureau of Agricultural Economics. Weekly Review—American Cotton Linters.'

In connection with the investigations on the comparison of the results of mill tests and Laboratory tests on the same cottons, it was noted that arrangements had been made with the Bombay Millowners' Association for tests to be carried out on a larger number of cottons in collaboration with a larger number of mills; it was agreed, however, that the Ahmedabad Millowners' Association, which was also interested in these tests, should be requested to arrange with their mills to send samples of lint, card sliver and roving bobbins for tests at the Laboratory. It was further agreed that *Busoga* cotton might also be included in the list of cottons to be experimented with. In connection with the work on this item a suggestion was made that instead of carrying out the investigations on the present lines, a better plan would be to find out the optimum conditions under which best results are obtained, and publish the results for the information of the mills. It was, however, explained that this aspect was not being overlooked, but that the question of finding out the optimum conditions for different types of cotton would have to be done step by step.

In connection with the supply of samples of trade varieties of cotton for tests at the Technological Laboratory, it was suggested that the Ahmedabad Millowners' Association should be asked to supply more samples from the approved list of cottons for tests and that, in order to avoid duplication, this should be arranged in consultation with the Bombay Millowners' Association. The Sub-Committee agreed that trade samples of *Cambodia, Karunganni* and *Tinnevellies* for such tests might also be obtained from the South India Millowners' Association.

The Progress Report was approved."

The recommendations of the Sub-Committee were accepted.

SUBJECT 80.—*Programme of work of the Technological Laboratory for 1940-41.*

The report of the Technological Research Sub-Committee on this subject, as adopted, is given below :—

"The programme of work of the Technological Laboratory for 1940-41 was considered and approved. With regard to item 3,* the Sub-Committee agreed that, while the Director, Technological Laboratory, may continue the experiments regarding the adjustment of blow-room machinery, this had nothing to do with the investigation referred to under this item. It was suggested that, in future, some indication should be given as to how far the new programme agreed with the previous approved programme and the work carried out during the year."

SUBJECT 81.—*Reports on the work of Technological Assistants :—*

(*a*) Lyallpur,
(*b*) Coimbatore,
(*c*) Dharwar,
(*d*) Surat,
(*e*) Sakrand,
(*f*) Parbhani, and
(*g*) Cawnpore.

The observations of the Technological Research Sub-Committee on this subject are as follows :—

"The Sub-Committee considered the reports of the Technological Assistants and endorsed the recommendation of the Agricultural Research Sub-Committee that the reports be approved subject to the criticism and comments made by the Director, Technological Laboratory. The Sub-Committee agreed that, in future, the remarks of the Director on the reports of the Technological Assistants should be attached immediately after the Secretary's note instead of at the end of each report to which they pertain."

The Report of the Sub-Committee was adopted.

SUBJECT 82.—*Final Report on the work done by Mr. M. U. Parmar.*

The Final Report was recorded.

SUBJECT 83.—*Minutes of Third Conference of Practical Carders and Spinners and Senior Staff of Technological Laboratory.*

The Technological Research Sub-Committee which considered this subject reported as follows :—

"The Minutes of the Conference were recorded. It was suggested that, in future, the dates of the Conference should also be notified to the members of the Committee, so that if any of them desired to attend the meetings, he might do so. It was further suggested that the Ahmedabad Millowners' Association should be invited to send representatives."

The Report of the Sub-Committee was adopted.

* Blow-room loss and clean-picked and dirty-picked cottons.

SUBJECT 84.—*Comparison of Mill and Laboratory Tests on the same cottons—Letter from Bombay Millowners' Association.*

The Secretary's note was recorded.

SUBJECT 85(*a*).—*Desirability of appointing an Assistant Director at the Technological Laboratory—Reference from last meeting.*

The Report of the Technological Research Sub-Committee on this subject was as follows :—

"In connection with the above proposal it was suggested that one way of reducing, to some extent, the routine work of the Laboratory would be to limit the samples sent by the breeders to a certain stage in the processs of breeding. This would limit the number of samples sent and to that extent reduce the work of the Laboratory. It was, however, agreed that the possibility of giving effect to this suggestion might be discussed at the next Conference of Cotton Workers to be held at Surat.

The Sub-Committee considered the proposals in connection with the appointment of an Assistant Director and recommended that Mr. D. L. Sen should be appointed Superintendent of the Testing House, in addition to his duties as Chemist, for a period of one year and granted a duty allowance of Rs. 75 p.m."

The Report of the Sub-Committee was adopted.

(*b*) *Variation in fibre properties of different pickings of the same cotton—Reference from last meeting.*

The Director's note* on the subject was recorded.

(*c*) *Experiments in connection with the finding of alternative uses for Indian cotton—Present position.*

The observations of the Technological Research Sub-Committee on this subject were as follows :—

"The Sub-Committee considered the note in connection with the finding of alternative uses for Indian cotton. In so far as the lint and absorbent cotton were concerned, it was pointed out that Indian mills were able to produce these in ample quantities, and it was suggested that the Director General of Indian Medical Service should be informed of this and requested that he should circularise the appropriate Provincial Departments and hospitals recommending that they should make their purchases from Indian mills. After some discussion, it was decided that the Secretary should address the Director General of Indian Medical Service in this connection."

The Report of the Technological Research Sub-Committee was adopted.

SUBJECT 86.—*Report of the Technological Research Sub-Committee.*

The Report of the Technological Research Sub-Committee, as amended, was adopted.

SUBJECT 87.—*Post-mortem examination of Madras Cotton Forecasts for the season ending 31st January 1940.*

The Cotton Forecast Sub-Committee reported on this subject as under :—

"The Sub-Committee noted that the actual crop of the Madras Province for the season ending 31st January 1940 was in the neighbourhood of 467,000 bales against 389,000 bales forecasted.

The Vice-President, referring to the mention made in the Secretary's note regarding the absence of information relating to the movement of cotton by road, enquired whether in view of the fact that this was a problem common to all provinces, it would not be possible to obtain some estimates of such traffic in order to improve the figures of actual crop. *Dr. Burns* thought that in connection with the Motor Vehicles Act, some figures had been collected regarding the extent of goods

* Appendix V (page 64).

carried by motor lorries in competition with Railways and suggested that the Central Government in the Communications Department might be addressed to ascertain whether there had been a large increase in the quantity of cotton carried by road. The Sub-Committee agreed that action might be taken as suggested."

The Report of the Sub-Committee was adopted.

SUBJECT 88.—*Report on an enquiry into extra-factory consumption of cotton in towns in the Punjab.*

The Report of the Cotton Forecast Sub-Committee on this subject is given below :—

"The Report was approved. In view of the fact that the difference between the rural and urban *per capita* consumption figures is not considerable and that the estimate of total urban consumption in the Punjab arrived at from the present enquiry is less than that based on the original enquiry by only 1,245 bales, the Sub-Committee does not recommend any modification in the figures of 2,33,000 bales at present adopted for extra-factory consumption for the Punjab (including Indian States)."

The recommendations of the Sub-Committee were approved.

SUBJECT 89.—*Publication of "Report on Forecasting of Cotton Crop in the Punjab".*

The Cotton Forecast Sub-Committee reported as under :—

"The Sub-Committee noted that an abridged paper on "Report on forecasting of cotton crop in the Punjab," embodying the results of analysis of the data available with the Punjab Agricultural Department for purposes of fixing revised standard yield figures for the Province for the quinquennium ending 1936-37, has been sent up for publication in the Indian Journal of Agricultural Science. As the subject was of scientific interest, it was agreed that the Committee should strongly recommend to the Punjab Government to arrange for the publication of the detailed Report as a departmental bulletin at an early date."

The recommendations of the Sub-Committee were adopted.

SUBJECT 90.—*Revision of Standard yield figures for cotton—Proposed co-ordinated scheme for crop-cutting experiments on cotton—Reference from August 1939 meeting.*

SUBJECT 91.—*Report of Special Sub-Committee on Crop-cutting Experiments on cotton.*

The Report of the Cotton Forecast Sub-Committee on this subject was as follows :—

"*Mr. Stewart* explained the salient points in the Report of the Special Sub-Committee and suggested that the scheme, as modified, might be approved and financed for one year in the first instance. It was difficult to estimate the exact amount that would be required for the working of the scheme for one year until the three provinces, the Punjab, the Central Provinces and Berar and Madras, had had time to submit estimates according to the standard scheme. He thought, however, that the total expenditure for the first year should not exceed Rs. 20,000.

After some discussion, the Report of the Special Sub-Committee was approved and it was agreed that pending the receipt of detailed estimates from the three provinces, the scheme as modified by the Special Sub-Committee should be provisionally sanctioned at a total cost not exceeding Rs. 20,000 for the first year.

The Sub-Committee noted that it would not be possible to put the scheme into operation until 1941, but that, it would be possible in the meantime, to work out the necessary preliminary details."

The recommendations of the Sub-Committee were adopted.

SUBJECT 92.—*Proposed amendments in the revised trade classification of Indian cottons.*

The Cotton Forecast Sub-Committee which considered this subject reported as follows :—

"In view of the smallness of the areas involved and the fact that meticulous accuracy cannot be achieved in classification by trade descriptions, the Sub-Committee considered that no further action was necessary in the matter of classifying cottons grown in the Man *Peta* of Satara district and the Phaltan State."

The recommendation of the Sub-Committee was adopted.

SUBJECT 93.—*Report of the Cotton Forecast Sub-Committee.*

The Report of the Cotton Forecast Sub-Committee was adopted.

The Committee considered a proposal (not on the Agenda) for the publication of a special number of the Cotton Trade Journal, International Edition, which would deal with Indian cotton and cotton piecegoods, the cost being borne by the various interests concerned in India. Whilst it was generally agreed that owing to its wide circulation the Journal would serve as a useful medium of publicity for Indian cotton and textile products, doubt was expressed as to whether, in the present disturbed conditions of the world, the Committee would be justified in embarking on such a scheme. On the other hand the view was expressed that the present was the most favourable time for publicity owing to the dearth of cotton abroad and to restricted stocks of cotton goods in several parts of the world. After further discussion, the proposal was put to the vote and lost.

The meeting concluded with a vote of thanks to the President.

D. N. MAHTA.

APPENDIX I.

SUBJECT 5.—*Report of Standing Finance Sub-Committee.*

Balance Sheet as at March 31st, 1940.

Final Accounts, 1939-40.

Revised Estimates, 1940-41.

Budget for Government servants, 1941-42.

Four meetings of the Sub-Committee were held since the last meeting of the Indian Central Cotton Committee. Mr. Chunilal B. Mehta was appointed a member of the Sub-Committee *vice* Mr. Kasturbhai Lalbhai, whose term of office as member of the Indian Central Cotton Committee expired on the 31st March 1940. Mr. M. S. Durutti having resigned his membership on the Committee, the temporary appointment of Mr. Chandulal P. Parikh on the Sub-Committee was extended to the end of the current financial year.

2. A Balance Sheet of the Committee's accounts as at 31st March 1940 is attached.* This shows the income and expenditure under the budget heads from the beginning of the Cotton Cess, *i.e.*, for 17 years, and has been prepared from the audited accounts. A Balance Sheet of the Provident Fund account of the Committee is also attached.*

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* Not printed.

3. A Statement of Accounts for the year 1939-40, as audited by the Committee's Auditors, is attached* together with the statement of detailed Final Accounts. Cotton Cess receipts for the year ending 1939-40 amounted to Rs. 6,93,974 against the revised estimate of Rs. 6,32,460. Interest on investments amounted to Rs. 81,556-13-0 against Rs. 83,180 estimated, and miscellaneous receipts to Rs. 1,46,238-15-0 against an estimate of Rs. 1,44,180-6-0. The total receipts for the year (including Cotton Cess receipts) thus came to Rs. 9,27,770. The total expenditure amounted to Rs. 9,08,105-10-0 against the sanctioned allotment of Rs. 12,37,318. The savings under the various heads, with the exception of those under (1) Administration, (2) Printing and Propaganda, (3) Technological, Working and Provincial and (4) Research Studentships, will be carried forward for utilisation in future years, if required. The Closing Balance, on the 31st March 1940, was Rs. 19,16,487, against Rs. 18,96,923-4-8 last year. The Provident Fund account for 1939-40 is also attached.*

4. The Revised Estimates of Receipts and Expenditure for the current year are subject to such alterations as may be necessary as a result of the decision of the Committee at this meeting. It will be seen that the estimate for Cotton Cess receipts has been revised to Rs. 5,50,000 against Rs. 4,80,000 estimated in January last. The estimate for interest has been reduced to Rs. 64,000 from Rs. 75,150 owing to the sale of securities to meet expenditure in excess of receipts. The revised estimate of expenditure amounts to Rs. 11,34,140 against the sanctioned budget estimates of Rs. 10,82,439; the increase of Rs. 51,701 is due to re-allotment of funds from savings and additional provision required under certain heads as shown below:—

	Sanctioned amount for 1940-41.	Total Amount required in 1940-41.	Re-allotment from savings or new provision.	Remarks.
	Rs.	Rs.	Rs.	
I. B.(*i*) Improvement of cotton marketing	6,750	10,300	3,550	Provision for Effects of Storage on quality of Indian cottons and a conditioning oven for Bombay Province.
(*ii*) Enquiry into the cost of cotton production in India ..	..	855	855	Represents 50% of expenditure incurred during 1939-40. (New provision).
II. (1) *Agricultural Research Grants.—*				
Bombay—				
(*d*) Wilt Breeding Scheme at Poona	8,227	8,480	253	Includes provision for two Thermostats.
Punjab—				
(*b*) Clean-up campaign of spotted Bollworm ..	1,302	3,122	1,820	Provision for leave salary and Provident Fund of staff.
(*c*) Root Rot Scheme ..	10,283	11,240	957	Provision for additional staff sanctioned by Standing Finance Sub-Committee.
Carried over	..	..	7,435	

* Not printed.

	Sanctioned amount for 1940-41.	Total Amount required in 1940-41.	Re-allotment from savings or new provision.	Remarks.
	Rs.	Rs.	Rs.	
Brought over	..	..	7,435	
Baroda—				
(*b*) Survey of Goghari cotton ..	..	420	420	Outstanding liabilities of 1938-39.
(4) *Miscellaneous*— Compilation of hand-book dealing with Pests and Diseases of cotton in the Empire ..	..	2,975	2,975	(New provision).
III. *Technological Research*—				
(1) Technological Laboratory—				
(*a*) Capital expenditure ..	..	3,799	3,799	Balance of capital grant re-allotted.
(*b*) Working expenses ..	1,74,886	1,76,458	1,572	Provision for Urban Property Tax. (New provision.)
III. *Technological Research*—				
(1) Technological Laboratory—				
(*a*) Development of alternative uses for Indian cottons ..				
(*i*) Capital expenditure ..	45,000	50,000	5,000	Provision re-allotted. (For Art. silk.)
(*d*) Investigation for improvement in ginning of Indian cottons ..	..	30,500	30,500	Provision re-allotted.
Total ..	..	..	51,701	

As the Government of India desired to know the reasons for the low estimate of Rs. 4,80,000 for the current year, the Sub-Committee decided that they should be informed that, when the estimates for Receipts and Expenditure for the current year were originally framed, it was felt that, owing to the operation of the American subsidy, more American cotton would be bought which would, to a certain extent, compete with Indian cotton both here and abroad and, secondly, that the off-take of Indian cotton would also be affected by the war.

To enable the Revised Estimates of the Committee to be submitted to Government by the 15th November, the Sub-Committee agreed that the Directors of Agriculture and others concerned with the control of the Committee's schemes should be requested to report estimated savings by the 5th November at the latest.

5. The Sub-Committee examined and approved of the Statement of Accounts for 1939-40 relating to the "Fumigation of American Cotton."

6. At its meeting held on the 5th March 1940, the Sub-Committee examined the financial details of the new schemes and extensions of schemes provisionally sanctioned by the Indian Central Cotton Committee at its meeting in January 1940, before submitting the proposals for the sanction of the Central Government. The decisions of the Sub-Committee are given below :—

C 2

A. New Schemes.

(*i*) *Project for extension of results of research in Surat.*

The scheme, as provisionally sanctioned by the Committee, was approved, the net cost to be borne by the Committee, the Bombay Government and the Imperial Council of Agricultural Research being Rs. 2,456, Rs. 5,698 and Rs. 2,456, respectively, spread over a period of three years.

(*ii*) *Scheme for Bollworm Investigation and Clean-up Campaign in Sind.*

The scheme, as provisionally sanctioned by the Committee, was approved at an estimated expenditure of Rs. 85,900 spread over a period of 3½ years, subject to the details of the contingencies being examined by the Secretary and approved, if found to be in order, and subject to the question of absorbing, in the posts of Graduate Assistants, the two Assistants available from the Punjab scheme, being further considered by the Sub-Committee. It was decided that, in the meantime, the opinion of the Director of Agriculture, Sind, should be asked as to whether, in view of the increase of nearly Rs. 12,700 in the cost of the scheme which the proposed absorption of both the Assistants from the Punjab would involve, it would not be better to take only the senior man from the Punjab and recruit the other locally on the lower rate of pay of Rs. 80-5-95, mentioned in the original proposals submitted by him. At a subsequent meeting, the Sub-Committee considered the reply of the Director of Agriculture, Sind, expressing agreement with the suggestion of the Sub-Committee, but proposing a pay of Rs. 110-8-150 for the local man, and decided that the post should, in the first instance, be offered on this scale of pay to the Junior Assistant who would be out of employment on the termination of the Punjab Clean-up Campaign Scheme. It was, however, agreed that the Senior Assistant, on absorption in the scheme, should be granted the pay he was drawing at the termination of the Punjab scheme.

B. Extensions of Schemes.

(*i*) *Punjab Botanical Scheme.*

The Sub-Committee approved of the extension of the Punjab Botanical Scheme, as provisionally sanctioned by the full Committee, for a further period of four years from the 1st March 1941, at an estimated cost of Rs. 3,07,936, of which Rs. 91,758 will be borne by the Committee and Rs. 2,16,178 by the Provincial Government. The Sub-Committee, however, could not understand the necessity for having a whole time Extra Assistant Director of Agriculture attached to a botanical scheme; it was accordingly decided that an enquiry in this connection should be made of the Director of Agriculture, Punjab, and that, in the meantime, in applying for the sanction of the Government of India to the extension of the scheme it should be mentioned that the question of the inclusion of the provision for the pay of the Extra Assistant Director of Agriculture in the estimates was being further examined by the Sub-Committee. The reply of the Director of Agriculture, stating that the designation "Extra Assistant Director of Agriculture" was a misnomer, and that the post was, in fact, purely one of research, was considered by the Sub-Committee at a subsequent meeting, and the inclusion in the scheme of the post under the revised designation of "Assistant to the Cotton Research Botanist" was agreed to. The Director of Agriculture's proposal that the present Assistant to the Cotton Research Botanist should, in future, be known as "Field Research Assistant" was also accepted.

(*ii*) *Hyderabad Pink and Spotted Bollworm Scheme.*

The extension of this scheme for a period of two months from the 1st April 1940, at an estimated cost of Rs. 1,786, as provisionally sanctioned by the Committee was approved.

(iii) Scheme for better marketing of 1027 A.L.F. cotton of Baroda State.

The extension of this scheme for a period of two years from the 1st February 1941, as provisionally sanctioned by the Committee, was approved at a cost of Rs. 5,584 to the Committee and Rs. 10,420 to the Baroda Government.

(iv) Extension of appointment of clerk employed in the office of Director General of Commercial Intelligence and Statistics in connection with monthly reviews of state of foreign trade in Indian cotton.

The Sub-Committee approved of the extension of the appointment of the clerk employed in the above scheme for a period of three years and 7 months, from the 2nd August 1940, at a cost of Rs. 9,163, as provisionally sanctioned by the Committee.

C. TECHNOLOGICAL RESEARCH.

(i) The Sub-Committee approved of the budget provision of Rs. 1,74,866 of the Committee's Technological Laboratory for 1940-41, as provisionally sanctioned by the Committee.

(ii) The Sub-Committee approved of the extension of the appointment of the Technological Assistant, Surat, for a period of five years from the 1st April 1940 at an expenditure of Rs. 19,741, as provisionally sanctioned by the Committee.

D. MISCELLANEOUS.

(i) The Sub-Committee approved of the budget estimates for 1940-41, amounting to Rs. 35,590, of the Cotton Genetics Research Scheme, Indore, as provisionally sanctioned by the full Committee.

(ii) The Sub-Committee approved of the expansion of the Scheme for Interspecific Hybridisation in Cottons at Surat, as provisionally sanctioned by the Committee, for the remaining sanctioned period of the scheme, involving an additional expenditure of Rs. 26,495.

7. The Sub-Committee sanctioned a sum of Rs. 50 from the provision of Rs. 2,000 in the sanctioned budget of the Hyderabad Bollworm Clean-up Scheme, for the award of medals and certificates to villagers for cleaning up the cotton fields in good time.

8. The Sub-Committee decided that the deficit of Rs. 2,506-1-0 under the Deccan Canals (Banilla) Seed Distribution and Extension Scheme should be met on a 50 : 50 basis by the Government of Bombay and the Committee.

9. On the resignation of Mr. Varjivandas Motilal as Grader for the Technological Laboratory, the Sub-Committee passed the following resolution :—

> "The Standing Finance Sub-Committee wishes to place on record its appreciation of the services rendered by Mr. Varjivandas Motilal over a period of five years in connection with the grading and valuing of cotton samples received for tests at the Technological Laboratory, and regrets that reasons of health compelled him to relinquish this work."

The Sub-Committee further decided that a silver salver of the value of Rs. 100 should be presented to Mr. Varjivandas Motilal as a token of the Committee's appreciation of the services rendered by him.

10. The Vice-President was elected by the Sub-Committee to represent the Indian Central Cotton Committee, *ex-officio*, on the Agricultural and Livestock Committee of the Provincial Rural Development Board, Bombay.

11. Mr. C. J. Bocarro was granted by the Government of India leave on average pay for four months with effect from the 8th March 1940. On the recommendation of the Sub-Committee, Mr. Ajodhya Sahai, Superintendent in the Secretary's office, was appointed to officiate as Assistant Secretary during the absence on leave of Mr. C. J. Bocarro. Mr. A. B. Joshi officiated as Superintendent *vice* Mr. Ajodhya Sahai.

12. On the recommendation of the Selection Sub-Committee appointed by it, the Sub-Committee approved of the appointment of Mr. K. Dharmarajulu to the post of Technical Assistant in the Secretary's office on a pay of Rs. 250 per mensem

in the sanctioned scale of the post. Prior to his appointment, Mr. Dharmarajulu was employed as Assistant Botanist under the Madras Pempheres and Physiological Scheme at Coimbatore.

13. In connection with the purchase of a pilot plant for determining the cost of production of chemical cotton for the manufacture of artificial silk, the Committee, at its meeting held in January 1940, recommended that an enquiry should be made of the Government of Bombay as to whether they would agree to bear jointly with the Committee the expenditure on a full report to be submitted by Messrs. Lockwood Greene, Engineers, U.S.A., and, if they were not agreeable, that the Committee should proceed with their part of the experiment, and obtain a report from the firm up to the stage of the manufacture of chemical cotton. The Sub-Committee considered the reply of the Director of Industries, Bombay, and agreed to his suggestion that a combined report in two parts on the whole scheme should be asked for. The Secretary was authorised by the Sub-Committee to accept from the Director of Industries, Bombay, a sum of Rs. 10,000, as deposit for expenditure in connection with the combined report, the balance, if any, to be returned to the Director of Industries after adjustment of the Bombay Government's share of expenditure on the report. It was decided, however, that it should be made quite clear that the acceptance of this deposit did not in any way bind the Committee to obtain and instal the machinery in connection with the proposed experiments and that the Committee would be free to decide, after examination of the report, whether or not to proceed with the experiment.

At a subsequent meeting, the Sub-Committee considered a letter from the Government of Bombay and decided that, as the latter were not prepared to proceed with their part of the experiment, the Committee should ask for a report from the consultants regarding the possibilities of manufacturing chemical cotton in India from linters, cotton waste, short staple and stained cottons. In view of the reported developments of "NYLON," it was suggested that the attention of the consultants should be drawn to this and they should be asked whether Nylon, in their opinion, was likely to compete with and affect the production of chemical cotton or artificial silk made from it. Necessary action has accordingly been taken and the consultants' report is awaited.

14. The nature of the insurance of the Committee's property (Secretary's office and Technological Laboratory) in Bombay was examined by the Sub-Committee, with a view to seeing whether there was any room for economy, and it was decided that, on the termination of the existing policy, the insurance of the Technological Laboratory against riot risks should be discontinued.

15. The Sub-Committee considered the question of the remuneration to be paid to Dr. B. N. Uppal, Plant Pathologist to the Government of Bombay, and Mr. H. D. Nangpal, who were appointed by the Committee as the writers respectively of the portion on fungus disease and insect pests on cotton in India for inclusion in the Hand-book on the pests and diseases of cotton in Empire, proposed to be published by the Empire Cotton Growing Corporation, London, and on the basis of the payments made by the Imperial Council of Agricultural Research for similar work, decided that Mr. Nangpal should be paid Rs. 1,725 (*i.e.*, Rs. 1,000 as honorarium and Rs. 725 for other expenses), and Dr. Uppal a sum of Rs. 1,250 inclusive of any expenditure that he might have to incur in connection with the appointment, with the sanction of the Director of Agriculture, Bombay, of an assistant to help him with the work. These terms have been accepted by both Dr. Uppal and Mr. Nangpal, and the expenditure has been sanctioned by the Central Government.

16. The Sub-Committee considered the proposal of the Hubli Co-operative Cotton Sale Society to repay the balance of Rs. 5,848, still owing to the Committee, by annual instalments of Rs. 1,000, beginning from the 1st July 1941, and decided that the Society should be asked to pay half their annual profit or Rs. 1,000, whichever is greater.

The Society at the same time promised to pay back to the Committee a sum of Rs. 505-8-0 in July 1940. This amount, however, has not so far been received.

17. The Sub-Committee considered an application from the temporary staff engaged on the Committee's schemes in the Southern Division of the Bombay Province requesting permission of the Committee to form an Association of the Committee's servants with the object of representing unitedly their grievances in respect of their position in service, pay, Provident Fund, etc., and decided that the position regarding the conditions of service under the Committee should be fully explained

to the Director of Rural Development, through whom the application had been received, and that he should be informed at the same time that the Committee had no objection to the Indian Central Cotton Committee's servants on the temporary establishment in the Southern Division of the Bombay Province forming an Association, if they still desired to do so.

18. The Sub-Committee decided that the operatives and junior staff working in the Spinning Laboratory of the Technological Laboratory should be insured against accidents which come under the provisions of the Workmen's Compensation Act.

19. In September 1939, at the instance of the Sub-Committee, the Government of India were requested to restore the broadcast of cotton prices at 1 P.M. which had been discontinued from the 16th September 1939. The reply received from the Government of India, stating that, after careful consideration, the broadcast of cotton prices at 1 P.M. had been discontinued for the present, was considered by the Sub-Committee at its meeting held in November last, and it was decided that the Committee's disappointment at the reply should be communicated to Government. On a reference from the President, enquiring as to how the broadcast actually helped the cultivators when there were no community receivers, and whether in the circumstances, the Committee would be prepared to reconsider the question of installing community receivers, the Sub-Committee expressed the view that the Government of India should again be requested to reconsider their decision on the ground that such broadcast was not only in the interest of the trade but also of the cultivators. During discussion, it was pointed out that in a number of markets where community receivers had been installed, as for instance, in the Berars, business used to be transacted, before the discontinuance of the broadcast, on the basis of the rates announced on the radio, and that even where there were no community receivers and at stations which were not connected by Trunk Telephone, broadcast receivers were owned by a number of traders and brokers, competition amongst whom ensured that the latest information broadcast was passed on to the market and thus to the cultivators. The Government of India were addressed accordingly, and the following reply received from them was considered by the Sub-Committee at its meeting held on the 24th July :—

"*Copy of letter No. K402, dated the 4th July 1940, from the Government of India, Department of Communications, New Delhi, to the Secretary, Indian Central Cotton Committee, Bombay.*

SUBJECT :—*Broadcasting of cotton prices at 1 p.m.*

With reference to the correspondence ending with your letter No. 4821, dated the 15th May 1940, I am directed to say that the Government of India have noted with regret that the Indian Central Cotton Committee, while not agreeing to the scheme for experimental broadcasts of commercial prices at selected centres at 10-30 P.M. which was proposed by this Department, have, again asked that broadcasts of prices at 1 P.M. should be resumed. I am to explain that Government would be prepared to forego some revenue to assist the cultivator if it could be shown that broadcasts of prices at an early hour of the day enabled the cultivator to market his produce to greater advantage, and it was with a view to obtain evidence on this point that it was decided to launch the experimental scheme. As, however, the Committee refuse to accept the scheme, and broadcasts at 1 P.M. involve a considerable loss to telegraph revenue without any compensating advantage to the cultivator, Government regret that they are unable to reconsider this question. It may be noted that even the British Broadcasting Corporation for reasons, which the Government of India assume, are the same as theirs, do not broadcast commercial prices until the evening."

The Sub-Committee noted with regret that the Government of India could not see their way to restore the broadcasting of cotton prices at 1 P.M.

20. The Sub-Committee sanctioned the continuance of the appointment of the clerk provided for in the Surat Seed Distribution and Extension Scheme from 31st March 1940, the expenditure on this account to be met from savings in the budget grants of the Indian Central Cotton Committee's schemes under the control of the Director of Agriculture, Bombay.

21. The Sub-Committee considered the question of the grant of leave to Mr. H. D. Nangpal, Cotton Entomologist, Parbhani, after the termination of the Hyderabad Pink and Spotted Bollworm Scheme on which he was employed, and decided that, as leave after the termination of a scheme could only be granted if it had been applied for during currency of the scheme and refused owing to the exigencies of the public service, Mr. Nangpal should be granted leave for one month and ten days, this being the actual period of leave applied for by him and refused by the Director of Agriculture.

The Sub-Committee also sanctioned leave for a period of four months to Messrs. Ladha Ram and Ganda Ram, Agricultural Assistants in the Punjab Clean-up Scheme, from the date of termination of the scheme, on the ground that leave had, in fact, been applied for and refused in the interests of the work.

22. In view of the fact that servants of the Committee are at present at a great disadvantage when applying for posts under Government, as service under the Committee is not recognised, the Sub-Committee, at its meeting held on the 26th April 1940, decided to recommend to the Central Government that, in the matter of calculating age for appointment to posts under Government, service under the Committee should be treated in the same way as service under Government. The Central Government's reply intimating that they were unable to relax, as a general rule, the age limit for entry into Government service, but that it was open to heads of Departments to relax in special cases the age limit on appointment, was placed before the Sub-Committee at its meeting held on the 24th July, but it was decided to defer further consideration of the matter to a future meeting.

23. The Sub-Committee, at its meeting held on the 26th April, decided that character rolls should be maintained in respect of all servants of the Committee and that a copy of the remarks made in them by superior officers should be forwarded each year to the Secretary for the information of the Committee.

24. The Sub-Committee noted with great concern that the whole of the work formerly done in the Deputy Director's office when the Committee's Seed Distribution and Extension Schemes were under the control of the Director of Agriculture, Bombay, had now been transferred to the office of the Cotton Superintendent, S.M.C., and desired it to be conveyed to the Government of Bombay that the work which was begun so satisfactorily and carried on for so many years by the Agricultural Department, should not now be allowed to deteriorate on account of insufficient technical supervision. The Sub-Committee considered it a great mistake to allow such matters to be delegated to the Cotton Superintendent, who should have adequate and full work in the districts in connection with seed multiplication, and desired it to be pointed out that this was one of the things which the Committee feared when it showed reluctance to agree to the proposed change of control of its seed distribution schemes from the Agricultural Department to the Rural Development Department and that the change had finally been accepted only on the understanding that the Committee's schemes would be looked after by appropriate officers in the two Departments.

25. The Sub-Committee renewed the arrangements with the Imperial Bank of India, to obtain an overdraft on current account for a further period of six months from 1st July 1940 to the extent of a lakh of rupees, when required, against security of Government Paper lodged with the Bank.

26. The Sub-Committee appointed the following to represent the Committee on the Board of Governors of the Institute of Plant Industry, Indore, during the current financial year :—

The President,
The Vice-President,
Mr. W. J. Jenkins, and
The Secretary.

27. On a reference from the Central Provinces Government, the Sub-Committee approved of the extension of the scheme for the investigation of *Heliothis obsoleta* as a pest of cotton in the Central Provinces and Berar for a period of five months from the 25th June 1940, on the understanding that the investigation would be completed by the end of that time and that the expenditure would be met from the savings of the grant of Rs. 1,700 already sanctioned.

28. In connection with the experiments proposed to be carried out at the Technological Laboratory to determine the suitability of cotton cloth for covering cotton bales, the Sub-Committee considered it necessary to clarify the object of the investigations which was to find an alternative use for Indian low cottons. It was accordingly decided that the Director, Technological Laboratory, should find out, in the first place, whether suitable cotton bagging can be made out of inferior Indian cottons like low Khandesh, and, if so, at what price compared with the price of hessian under normal times. Should the results of this investigation show that cotton cloth for covering bales can be made from such cotton, and that it is an economic proposition, the Sub-Committee expressed the view that the next step should be to get some cloth made for covering two or three bales in order to test its durability by storing and handling the bales for a period of two years in such a way as to reproduce, as nearly as possible, the treatment to which cotton bales are ordinarily subjected during the course of their transit from the pressing factories to the final destination.

29. Subject to the approval of the Government of India, the Sub-Committee sanctioned an additional non-recurring grant of Rs. 3,000 for the Scheme for investigations or improving the ginning of Indian cottons, thus raising the total cost of the Scheme to Rs. 33,500.

30. Consequent upon Italy's entry into the war, the following telegram was sent to the Government of India, on behalf of the Sub-Committee :—

> "Owing present international situation my Finance Sub-Committee strongly recommend Government should take immediate steps for war risk insurance of cotton stocks in India as unavailability such insurance restricts purchases and depresses prices."

The above telegram was followed up by the attached letter explaining the views of the Sub-Committee and the need for the introduction of a scheme of compulsory insurance of cotton stocks held in India. Subsequently, an exploratory conference, convened at the instance of the Hon'ble the Commerce Member, at which Mr. H. C. Prior, Additional Secretary to the Government of India, Department of Commerce, presided, and representatives of the Indian Central Cotton Committee, the Bombay Chamber of Commerce, the Bombay Millowners' Association, the East India Cotton Association, the Indian Merchants' Chamber, the Bombay Seeds Merchants' Association and the Marwari Chamber of Commerce were invited to be present, was held on the 4th July, in the Board-room of the Reserve Bank of India, to consider the feasibility of introducing a war risk insurance scheme and the lines it should take, if introduced. Mr. Thomas, Superintendent of Insurance, was also present at the discussion. The Committee was represented by the Vice-President, Mr. Vonesch and the Secretary. All interests concerned were unanimously of the opinion that a scheme for War Risk Insurance of commodities except such items as, growing crops, coal, cement, certain metals and other ores, &c., was necessary. The general view of the meeting was that the scheme should be administered by Fire Insurance Companies in India as Agents of the Central Government and that it should follow generally the lines of the United Kingdom scheme modified to suit conditions in India; further, that it should be made compulsory with fire risk insurance.

At its meeting held on the 24th July, the Sub-Committee approved of the action taken on its behalf in this connection. During discussion, the question of the rate of premium to be charged for the proposed insurance was raised, and the Vice-President was authorised, on receipt of official intimation on this point, to intimate the views of the Sub-Committee to the Government of India.

Copy of letter No. 5540, dated the 25th June 1940, from the Secretary, Indian Central Cotton Committee, Bombay, to the Secretary to the Government of India, Department of Commerce, Simla.

Land war risk insurance of Indian cotton stocks.

I have the honour to invite reference to my telegram No. 5418, dated the 19th June 1940, and to say that my Standing Finance Sub-Committee consider that Italy's entry into the war has rendered the question of land war risk insurance of Indian cotton stocks one of immediate importance. In the opinion of the Sub-Committee, the absence of any cover against land war risk is already restricting purchases and depressing the prices and it is feared that, during the coming months, this will seriously interfere with export trade, as merchants will hesitate to send their cotton to ports in the expectation of a sale for shipment.

As Insurance Companies, by world-wide agreement, have declined to accept war risk on land, my Sub-Committee feel that the only solution lies in the introduction of a scheme of compulsory insurance, something on the lines of the legislation introduced in England at the outbreak of the war. In the view of my Sub-Committee, if such insurance is made compulsory all over India and not restricted only to ports, the premium rates can be kept at a very low level. In the scheme envisaged by my Sub-Committee, Government would themselves be the insurers, and they may, if they consider it desirable, utilize the services of the Insurance Companies to act as their Agents.

APPENDIX II

SUBJECT 6.—*Report of Local Sub-Committee.*

Four meetings of the Sub-Committee were held since the last meeting of the Indian Central Cotton Committee. Mr. Kasturbhai Lalbhai having retired, his place on the Sub-Committee was taken by Mr. Chunilal B. Mehta. Mr. L. F. H. Goodwin was appointed in place of Mr. M. S. Durutti resigned.

2. As reported at the last meeting, the Government of India were requested urgently to examine the question of the import of steel hoops into India, with a view to securing, in consultation with His Majesty's Government, in the United Kingdom, the maintenance of an adequate supply of this essential article during the present emergency. They were also informed that the minimum annual requirement of hoops for baling cotton was some 22,000 tons, and that the Sub-Committee was of the opinion that this Committee should be the permit holder for imports, as such an arrangement would prevent profiteering and enable everyone concerned to have a reasonable share of the imports. The Government of India, however, replied that control over normal trading was effected only when Government were satisfied that without control a trade would break down; in the present case, Government were not satisfied of the necessity of controlling imports and sales of steel hoops. The Sub-Committee, however, felt that, although Great Britain would make every effort to supply steel hoops to India, there was likely to be serious delay extending over several months, as, while Priority Certificates for exports to India were obtainable quickly and without difficulty, supply against specific orders was dependent upon the issue of Rolling Permits by the Ministry of Supply in England. It was accordingly decided that the President should be requested to bring to the notice of the Government of India that, as ginning and pressing factories would start working from September, delay in the supply of hoops would constitute a serious difficulty in the movement of the cotton crop. Further, that unless stocks were available at reasonable rates, the problem would not be solved and that, therefore, unless suitable steps were taken for the distribution of the supply, it was not improbable that some merchants would hold back the stocks with intent to profiteer; it was to prevent such profiteering, that the Committee desired to offer its services to act as permit holder for the import and distribution of hoops.

3. The Sub-Committee considered a letter addressed by the Registrar of Co-operative Societies and Director of Rural Development, Bombay, to the Bombay Millowners' Association, in which he brought to the notice of the Association that, in spite of its superior fibre, *B.D. 8* cotton in the Broach District, fetched Rs. 10 to Rs. 15 per *bhar* of *kapas* lower than the local cotton, as a result of which not only did the grower suffer considerable loss but further extension of this superior cotton was affected. In this connection, the Sub-Committee considered also a letter received from Messrs. Volkart Bros., intimating that a similar complaint had been made by the Co-operative Societies in the Broach area to the East India Cotton Association, in which the reasons for reluctance on the part of Indian mills or cotton merchants to pay the proper price for *B.D. 8* were stated to be (1) the fear of a general mill strike in Ahmedabad and Bombay, the principal consumers of such cotton, and (2) the high price of the hedge contract, which, in spite of the recent decline of about Rs. 70 per *candy* was, still Rs. 100 higher than the previous year. The Sub-Committee decided that the gist of the letter from Messrs. Volkart Bros. should be communicated to the Registrar of Co-operative Societies and Director of Rural Development, and that it should also be pointed out that the usual percentage of premium cannot be expected, when the basic price of Broach is high. The Sub-Committee noted that the Director of Agriculture, Bombay, had evolved a new strain which was a better ginner than the present *B.D. 8*, and that, if it proved successful, the present difficulty, arising from the low premium for the improved

strain over local, would disappear. As regards the suggestion that the Bombay Millowners' Association should instruct its mill members to pay a proper premium for *B.D. 8*, the Sub-Committee was of the opinion that this was a matter for the ginowners rather than the millowners and it was suggested that the Director, Rural Development, in collaboration with the Director of Agriculture, Bombay, should get into touch with the ginowners with a view to ginning the cottons pure and giving financial aid to cultivators, until such time as their produce was sold.

4. The Sub-Committee at its meeting in April 1939 arrived at the following decisions on the subject of comparison of results of tests on standard and trade varieties of Indian cotton: —

"(1) The Sub-Committee noted that the difference in blow-room and card room loss between the standard Indian cottons and commercial samples of the same cottons was largely attributable to the special care taken in picking, storage and ginning of the samples of standard Indian cottons supplied by the Cotton Breeders, which had the additional great advantage of being 'well-grown.' In this connection, the circular issued by the Secretary to the various Directors of Agriculture, in consultation with the Vice-President, was approved.

(2) The Sub-Committee observed that the big differences in spinning performance and strength between the two samples of cottons were, in large measure, due to the mixing that takes place in the trade varieties. In Madras, for instance, there was practically no mixing in the case of *Cambodia* cotton, and the results of tests on standard and commercial samples of that cotton, therefore, did not show much variation.

It was noted that the general similarity between the blow-room loss in the standard and trade samples of *Cambodia* was due not only to the purity of the seed but also to the fact that *Cambodia* possesses big bolls which open well and fully at maturity and enable ripe bolls to be picked clean and free from broken leaf and bracts.

(3) The Sub-Committee agreed that it would be useful if a comparative statement, setting out side by side the results of tests carried out at the Matunga Laboratory on standard cottons and commercial samples of the same varieties, were prepared and published every year.

(4) As regard the suggestion of the Bombay Millowners' Association that laboratory tests on farm and commercial cottons should be supplemented by mill tests on 100 lb. samples, it was suggested that the Association might be informed that the Committee, at its last meeting had already decided, with a view to determining what allowance should be made for tests carried out at the Laboratory against similar tests conducted by mills that the Director, Technological Laboratory, should purchase a bale each of *Broach, 289F, Jayawant* and *Oomras* and carry out tests on them at the Laboratory, at the same time sending a 100 lb. sample of each cotton to two or three mills for similar tests for purposes of comparison :—

The Sub-Committee agreed that the exact nature of these tests might be decided on by a Technological Laboratory in consultation with an expert Sub-Committee of Carders and Spinners.

(5) The Sub-Committee was of the opinion that a copy of the papers, together with a copy of the decisions thereon, should be forwarded to all Directors of Agriculture and to Rai Bahadur S. V. Kanungo, Indore State, for suggestions regarding the steps that might be taken to improve the position. It was suggested that their special attention should be drawn to the need of extension of the seed distribution arrangements to ensure adequate supply of pure seed for sowing purposes."

Action was taken accordingly and, after considering the replies received the Sub-Committee decided that the suggestions made should be forwarded to all the Directors of Agriculture and the Director, Technological Laboratory, for information and such action as might be found feasible for improving the position.

5. The Sub-committee considered the limitations imposed by the United States Government on imports of cotton and cotton waste into the U.S.A. and decided that the President should be requested to enquire from the Government of India regarding the action taken by them in this connection in so far as imports from British India were concerned. The Sub-Committee felt that, while the quotas

fixed for Indian cotton of staple length between ¾" and 1⅛" and of 1⅛" and above might, for the time being, be considered adequate (there being no quotas for cotton less than ¾" in staple), this was far from being the case in regard to cotton waste for which a quota of only 69,627 lbs. or 174 bales had been allocated, although the annual exports of cotton waste to the U.S.A. from British India for the fiscal years 1934-35 to 1938-39 were 22,000, 23,000, 25,000, 5,000 and 13,000 bales of 400 lbs., respectively. It was also suggested that full information in this connection might be obtained from export houses in Bombay, if possible.

6. The Sub-Committee considered a note on Sind *Sudhar* and *4F-98* cottons forwarded by the Director of Agriculture, Sind, with the recommendation of the Sind Cotton Committee that, it should be published in a British Journal and that the Indian Central Cotton Committee should bear the expenditure on this account. In support of this it was urged that the note was intended for wide distribution amongst consumers in Great Britain and the Continent with the object of popularising Sind *Sudhar* cotton and that propaganda of this nature was one of the functions of the Central Cotton Committee. The Sub-Committee, however, decided to postpone consideration of the matter for the present.

7. The Standing Finance Sub-Committee, at its meeting held in September 1939, agreed to the appointment of the Marwari Chamber of Commerce, Calcutta, as the Committee's agents for drawing samples of yarn or cloth from bulk to be sent for tests at the Testing House of the Technological Laboratory and to their collecting the fee of Rs. 4 and Rs. 6 for short and long distances, respectively; it was also agreed that the out-of-pocket expenses incurred by the Chamber should be recovered from the fees collected by them on this account. As similar requests were received from the Chambers of Commerce at Karachi, Madras and Punjab, the Sub-Committee sanctioned them on the same terms as agreed to in the case of the Marwari Chamber of Commerce, Calcutta.

8. The Sub-Committee considered a reference from the Director of Agriculture, Madras, asking for the views of the Committee on the question (raised by Messrs. Binny & Co.) of wrapping cotton bales in hessian and using it several times instead of only once, owing to its high price and short supplies. The East India Cotton Association, who were consulted in the matter, expressed the view that unless the Cotton Ginning and Pressing Factories Rules were amended, such bales could not be a valid tender in forward contracts but that the method could not be objected to, if Messrs. Binny & Co. purchased cotton for their own use. The Sub-Committee endorsed the views expressed by the East India Cotton Association and decided that the Director of Agriculture, Madras, should be informed accordingly.

9. The Sub-Committee considered and approved of the draft bill to replace the existing Bombay Cotton Control Act, 1935. The object of the Bill is to prohibit the cultivation, mixing, possession or use of or trade in, any other varieties of cotton except the standard variety fixed for cultivation in the specified area. It was decided that the Bombay Government should be informed that the Sub-Committee approved of the Bill and had no suggestions to make for the present.

10. At its meeting in January last, the Technological Research Sub-Committee considered the question of finding alternative uses for short staple Indian cotton and recommended *inter alia* that the Municipalities of Bombay and Calcutta might be consulted regarding the possibilities of using such cotton for road making. On a reference from the Director, Technological Laboratory, in this connection, the Sub-Committee decided that the Director should request the authorities in the U.S.A., for latest information on the specifications of cloth required for making both bituminous and concrete roads and that, in the meantime, he should, if possible, arrange with the City Engineer, Bombay Municipality, to proceed with the proposed experiment on road-making with cotton fabrics. As regards the particular fabric to be used, the Sub-Committee expressed the view that, unless suitable cloth could be made out of cotton waste, it might be too expensive to compete with jute. It was pointed out that the use of cotton cloth for road-making in America, to increase the consumption of American cotton, was a somewhat different proposition, as jute hessian was not indigenous in America but had to be imported from long distances. It was decided that Dr. Nazir Ahmad should endeavour to obtain samples of suitable but cheap cotton material and also of cloth made from cotton waste from the local mills and select a few types, in consultation with the Municipal Engineer, for carrying out the experiment.

11. The Sub-Committee considered and approved, with some modifications, the programme of work put up by the Director, Technological Laboratory, to de-

termine the suitability of cotton cloth for covering cotton bales. The Standing Finance Sub-Committee at a recent meeting made it clear that the object of this investigation was to find an alternative use for Indian low cottons, and that, therefore, the experiments should be modified accordingly. This subject is also referred to in paragraph 28 of the report of the Standing Finance Sub-Committee.

12. The Sub-Committee considered the suggestion of the Director of the Technological Laboratory, for publication of a report on a sample of cloth cover from an imported bale of American cotton, tested at the Laboratory, and decided that it was not desirable to do so for the present. The Sub-Committee also considered a report, forwarded by the Director, on samples of yarn spun at the Laboratory from a mixture of *1027 A.L.F.* and *Oomra*, similar in count, etc., to the yarn from which the American cotton cloth cover in question was found to have been made and expressed the view that it was tackling the problem from a wrong angle, as, unless suitable baling cloth could be made from lower qualities of *Mathia, Khandesh, Muglais* or similar cottons having a staple length of a little over $\frac{1}{2}$" and a grade in the neighbourhood of 'good,' there was little chance of its successfully competing with jute hessian. The Sub-Committee emphasised that the price of baling cloth would have to be such as could compete with hessian under normal conditions and not only under the exceptional circumstances brought about by war; also, that unless the manufacturer was assured of regular sales, he could not reasonably be expected to take up the manufacture of an article for which there might not be a market after the lapse of a few years.

13. Under orders of the Government of India, all Collectors of Customs are required to send with effect from August 1939, a statement every month to the Committee, showing separately imports of raw cotton of staple length (*a*) 1" and less and (*b*) above 1". In forwarding a copy of these orders, the Government of India desired that the course of trade in raw cotton should be watched by the Committee and any abnormality found reported to them. A statement showing the imports from August 1939 to February 1940 was considered by the Sub-Committee. During the period in question, the imports of staple lengths 1" and less amounted to 4,600 bales or 1·6% of the total imports. The Sub-Committeee suggested that the statement, together with the available figures of the corresponding periods of the previous three years, should be forwarded to the Government of India for information, and that it should be added that the increase in the imports of Egyptian cotton was largely due to the war, which impelled some people to lay up stocks against possible interference with supplies.

14. The Sub-Committee agreed to support the representation submitted by the Bombay Millowners' Association to the Government of India suggesting the need for a quantitative limitation of imports of Chinese yarn and piecegoods into India.

15. In connection with the finding of alternative uses for Indian cotton, a piece of belting manufactured by the Goodyear Tyre & Rubber Co. (India) Ltd. was tested at the Technological Laboratory and as it was found that the proportion of cotton to non-cotton materials in the belting was 73 to 27%, the Sub-Committee decided that the Director, Technological Laboratory, should take up the matter further with the Tyre Co. and submit a report to the Committee in due course.

16. In exercise of the discretionary power vested in it, the Sub-Committee accepted the recommendation of the Director of Agriculture, Bombay, for the inclusion of *jarilla* cotton in the list of Standard Cottons in view of its estimated production for the current season being 23,000 bales and for the next 50,000 bales.

17. In view of the report made by the Director of Agriculture, Bombay, that the cultivators in the protected area lying south of Nerbudda, who formerly favoured *1A*, were in favour of growing *1027 A.L.F.*, the Committee at its last meeting decided that the matter should be brought to the notice of the Governments of Bombay and Baroda and that they should be requested to take necessary measures, including legislation, before the next sowing season, to prohibit the growing of *1A*. Action was taken accordingly and the replies received were considered by the Sub-Committee. In regard to Baroda the Sub-Committee, noted with satisfaction that the following steps had been taken :—

(1) The application of the Baroda Cotton Transport Act has been extended forbidding the movement of *1A* cotton from Olpad into the State.

(2) A bill to suppress *1A* has been drafted and is expected to be put into operation by December 1940.

(3) Seed organisation has been developed for the supply of pure seed for the whole cotton tract of Navsari district.

(4) *1027 A.L.F.* is sold under A G M A R K.

(5) Root pulling is being carried out in areas where *1027 A.L.F.* is dominant.

As regards the Bombay Province, while the Sub-Committee realised that the passing of the necessary legislation relating to the compulsory cultivation of the standard cotton suitable for a particular tract specified by Government, from time to time, in addition to prohibition of the growing of cottons other than *1027 A.L.F.*, might be delayed owing to the present constitutional position, it nevertheless considered it most necessary that some effective steps should be taken meanwhile to prevent the growing of *1A* in the proteeted area lying south of the Nerbudda. It accordingly suggested that the Director of Agriculture, Bombay, might approach the Government of Bombay with a view to devising suitable interim measures for the protection of the area in question against the possible inroads of *1A* cotton.

18. At its meeting held in September last, the Sub-Committee considered complaints from the Manchester Cotton Association and the International Federation of Master Cotton Spinners' and Manufacturers' Associations regarding the presence of foreign matter in Indian cotton, and decided that they should be informed that the Committee was most anxious to see that the presence, through carelessness or otherwise, of extraneous matter in Indian cotton bales was put a stop to but that it was necessary that press marks and running numbers of the bales in question should be supplied with the complaints to enable the matter to be followed up. The Manchester Cotton Association and the International Federation were addressed accordingly. The Manchester Cotton Association Ltd. have intimated that the spinners concerned have been asked to supply the required particulars in future. The reply received from the International Federation of Master Cotton Spinners' and Manufacturers' Associations, Manchester, was also considered by the Sub-Committee and it was decided that the Federation should be informed that, while the Indian Central Cotton Committee was only too anxious to investigate complaints regarding the presence of foreign matter, such as 'kapas,' pieces of eloth, stones, wood and iron in bales of Indian cotton, in order to prevent the recurrence of such malpractices, it was obviously most difficult to pursue the matter and take effective action unless full particulars and running numbers of the bales complained of were available. As from nowhere else had the Committee received complaints of extraneous matter in Indian cotton bales to anything like the extent or scale mentioned in the Federations' letter, the Sub-Committee felt that it would be just as well to bring this fact to the notice of the Federation.

19. The Sub-Committee considered a complaint from the Manchester Cotton Association, Ltd. regarding illegible marks on bales shipped from Bombay, and decided that the Association should be informed that the matter would be brought to the notice of the shippers concerned. At the same time, the Sub-Committee felt that the Association should be informed that the obvjous thing was for the spinners to complain to the suppliers concerned whenever difficulty was experienced by them in reading the marking on any bales imported from India, and that to enable the Committee to follow up the matter in any particular case, it was necessary that the identification marks on the bales and other particulars relating to them should be supplied with the complaint.

20. The Sub-Committee considered the request of the Director of Agriculture, United Provinces, for the replacement of *A. 19* by *C. 520* in the list of Standard Indian Cottons on the ground that in the last four years the area under the former variety had dwindled from 14,000 to 2,000 acres while that under the latter had increased from 22,000 to 34,000 acres, and decided that from the ensuing year *C. 520* should be included in the list but that both *A. 19* and *C. 402* cottons should henceforward be excluded.

21. The Sub-Committee, at its meeting in September 1939, decided that if in any particular season, the number of complaints of foreign matter in cotton bales received against a pressing factory went beyond a certain number, say 10, the Provincial Government concerned should consider the question of stopping the press from working for one season. In this connection, the Government of Assam enquired under what powers the Provincial Government could take action against the defaulting factories, while the Hyderabad Government desired to know what rules were proposed to be recommended to enforce the proposal. The matter was accordingly reconsidered by the Sub-Committee, and it was decided that, in the

circumstances, other provinces should be requested to amend the Cotton Ginning and Pressing Factories Act, 1925, on the same lines as Bombay and the Central Provinces, in order to provide for licensing of ginning and pressing factories and for penalising the presence in cotton bales of cotton seed (in excess of a prescribed percentage), cotton waste and foreign matter.

22. The Sub-Committee considered and approved the suggestion of the Director of Industries, Central Provinces and Berar, for the deletion of the proviso to section 9(1) of the Cotton Ginning and Pressing Factories Act, 1925, which exempts from the operation of the Act in regard to structural requirements factories in which not more than four roller gins are used, on the ground that the exemption allowed by the proviso was being taken advantage of. The Sub-Committee also decided that, for the sake of conformity, the proviso to Section 9(1)(*A*) of the Act should also be deleted.

23. The Sub-Committee considered certain amendments to Section 3*A* of the Cotton Ginning and Pressing Factories Act, 1925, in its application to the Central Provinces and Berar, suggested by the Director of Industries, Central Provinces, to remedy a *lacuna* in the Act in respect of watering of cotton by ginning factories, and decided that Section 3-*A*(2) of the Act should be amended to read as follows :—

> " 3-*A*(2). Any owner of a cotton ginning factory or any person in charge of such factory who knowing or having reason to believe that any cotton is watered or contains seed in excess of the prescribed proportion or contains any foreign substance, gins or allows such cotton to be ginned in such factory shall, on conviction, be punishable with fine which may extend to fifteen hundred rupees."

The Sub-Committee was further of the view that, in order to render watering of any cotton a penal offence, sub-section (5) of Section 3-*A* of the Central Provinces Act should be deleted and a new Section, on the lines of Section 3-*AA* of the Bombay Act added, as the existing provisions in Section 3-*A* relating to watering of cotton were restricted by the ' Explanation ' attached to that Section, which did not provide against deliberate watering of cotton within the prescribed limit of moisture content.

APPENDIX III.

SUBJECT 8.—*Bombay Agricultural Produce Markets Act.*

Secretary's Note.

A copy of the Bombay Agricultural Produce Markets Act is attached† for information. This Act replaces the Bombay Cotton Markets Act, 1927, which provided for the establishment of regulated cotton markets but provision has been made in it for the recognition of the regulated cotton markets already established under the Bombay Cotton Markets Act.

The new Act follows very closely the Punjab Agricultural Produce Markets Act, 1939. The following statement shows the main differences between the two Acts :—

Bombay Agricultural Produce Markets Act.	*Punjab Agricultural Produce Markets Act.*	*Remarks.*
1. The Market Committee shall consist of not less than 12 and not more than 15 members—not less than one-third being elected by growers or growers' organisations and persons licensed.	1. The Market Committee shall consist of not less than 8 and not more than 16 members—not more than two Government servants being nominated by Government and the remaining shall be, in proportion of two to one selected by Government from panels of representatives of growers and persons licensed.	Under the Bombay Cotton Markets Act now repealed the market committee consisted of not less than 8 and not more than 12 members half of which were to be elected by growers. In the Bombay Act one-third of the members are to be elected by cultivators ; there is no such provision in the Punjab Act.

† Not Printed.

Bombay Agricultural Produce Markets Act.	*Punjab Agricultural Produce Markets Act.*	*Remarks.*
2. *Penalties.*—	2. *Penalties.*—	
(1) For contravention of Act in respect of the liconse fine may extend to Rs. 500 and for continuing contravention fine up to Rs. 100 every day.	(1) For contravention of this Act in respect of the license fine may extend to Rs. 500 and for continuing contravention fine up to Rs. 30 every day.	
(2) For making or recovering trade allowance, other than prescribed, fine may extend to Rs. 200.	(2) For making or recovering trade allowance other than prescribed fine may extend to Rs. 100.	
(3) For contravention of any rule made under the Act or of any of the conditions of the license fine may extend to Rs. 200.	(3) For contravention of any rule made under the Act or any of the conditions of the license fine may extend to Rs. 500.	Under the Bombay Cotton Markets Act, the penalty was fine upto Rs. 500.
3. *Rules.*—	3. *Rules.*—	
Rules made under this Act are liable to be modified or rescinded by resolution of the legislature, but if in the opinion of the Provincial Government such modification or rescission is likely to defeat or frustrate any of the purposes of the Act, the Provincial Government may notify in the Official Gazette that such modification or rescission shall have no effect and thereupon the rule shall remain in force as if it had not been modified or rescinded.	Rules shall be liable to be rescinded or modified by a motion of the Legislative Assembly.	
4. *Bye-laws.*—	4. *Bye-laws.*—	
Market Committee may make bye-laws with the previous sanction of the Director or any other officer specially empowered by the Provincial Government.	The Market Committee can make bye-laws, but no bye-law shall take effect until it has been published for information and subsequently confirmed by Government and notified in the official Gazette.	

Under the Bombay Agricultural Produce Markets Act the Provincial Government can make rules, *inter alia*, for

(1) the regulation of advances given to agriculturists, by brokers or *dalals*

(2) the prevention of adulteration of the agricultural produce, and

(3) the grading and standardisation of agricultural produce.

There is no provision in the Punjab Act for framing rules for similar purposes.

APPENDIX IV.

SUBJECT 13 (*a*).—*Cotton Transport Act—Notification by Bombay Government.*

Secretary's Note.

At the meeting of the Committee held in March 1937, it was reported that, owing to legal difficulties, it was found necessary to issue licenses for importing half-pressed bales from Vyara (Baroda State) to Surat (Bombay Province), although both the stations are situated in the same protected area. The matter was brought to the notice of the Government of Bombay by the Director of Agriculture, and the attached Notification issued by the Provincial Government now removes the anomaly. Under this Notification, cotton, not only from the Surat Protected Area of Baroda State but also from the South Surat and Olpad-Ankleshwar Protected Areas of the State, can be imported into the corresponding protected areas of the Bombay Province without license. An extract from Schedule II of the Notification of 1923 referred to in the Bombay Government Notification attached, is also appended.

This is for information.

REVENUE DEPARTMENT.

Bombay Castle, 4th June 1940.

No. 535-*A*.—In exercise of the powers conferred by sub-section (2) of section 3 of the Cotton Transport Act, 1923 (III of 1923), and all other powers enabling him in this behalf, the Governor of Bombay is pleased to amend Government Notification in the Revenue Department, No. 535-*A*, dated the 18th August 1923, as follows, namely :—

1. To paragraph (2) of the said notification, the following proviso shall be added :—

   "Provided that the prohibition referred to in paragraph (2) shall not apply to cotton consigned from any one of the railway stations specified in Schedule III hereto appended."

2. After Schedule II appended to the said notification, the following Schedule shall be inserted, namely :—

   "*Schedule III.*—Railway stations consignments from which are not prohibited :—

   I. The South Surat area :—
      1. Unai,
      2. Kevdi Road,
      3. Kalaamba.

   II. The Surat area :—
      1. Kaher,
      2. Vyara,
      3. Doswada,
      4. Fort Songhad.

   III. The Olpad-Ankleshwar area :—
      1. Velachha,
      2. Simodra,
      3. Mangrol,
      4. Vankal,
      5. Jhan Khuav."

By order of the Governor of Bombay,

V. S. BHIDE,

Secretary to Government.

Extract from Bombay Government, Revenue Department, Notification No. 535-A., dated the 18th August 1923.

Schedule II.—Railway Stations included in the Protected Areas.

I. *The South Surat Area.*—Maroli, Navsari, Vedcha, Amalsad, Billimora, Dungri, Bulsar, Gandevi, Kalvach, Chikhli Road, Rankuwa, Dholikuwa and Anawal.

II. *The Surat Area.*—Sachin, Udhna and Surat on the B. B. & C. I. Railway and Nio, Chalthan, Gangadhra, Bardoli, Timberva and Madhi on the Tapti Valley Railway.

III. *The Ankleshwar Area.*—Panoli, Ankleshwar, and Kosamba.

III(*A*). *The Olpad Area.*—Kim, Sayan and Utran.

* * * *

APPENDIX V.

SUBJECT 85(*b*). *Variation in fibre-properties of different pickings of the same cotton—Reference from last meeting.*

At the meeting of the Technological Research Sub-Committee held in January last, during discussion on the Progress Report of the Technological Laboratory, it was decided that as no work had so far been done to ascertain the difference in spinning value of cottons from the first, second or last pickings, it would be of considerable value to the trade if this could be investigated at the Technological Laboratory. It was also suggested that Technological Assistants should under ake work on the fibre properties of different pickings of the same cotton.

The attached letter, with enclosure, has now been received from the Director, Technological Laboratory, and is for consideration.

Copy of letter No. 2658, dated the 11th July 1940, from the Director, Technological Laboratory, Matunga, to the Secretary, Indian Central Cotton Committee, Bombay.

SUBJECT.—*Variation in fibre-properties of different pickings of the same cotton.*

I have the honour to inform you that at the last meeting of the Technological Research Sub-Committee, the Vice-President raised the question of variation in fibre-properties of different pickings of the same cotton and suggested that I might ask the various provincial Technological Assistants as to what work had been done on the fibre-properties of different pickings. Accordingly letters were addressed to the Directors of Agriculture asking them to instruct the Technological Assistants working under them to write short accounts of the work, if any, done by them on the fibre-properties of different pickings of the same cotton. In reply to these letters, the Directors of Agriculture of Bombay Presidency and Hyderabad State stated that so far no work had been done on this particular problem by the Technological Assistants working under them, while the Directors of Agriculture of Punjab, Sind, Madras Presidency and United Provinces replied that some work had been done and that they were instructing the Technological Assistants to send the relevant notes. In due course these notes were received from the Technological Assistants working at Lyallpur, Sakrand, Coimbatore and Cawnpore. I have gone through these notes and have summarised the conclusions drawn by them in the accompanying note. I shall be glad if you will kindly place this note for consideration before the Technological Research Sub-Committee at its next meeting.

Note on Variation in Fibre-properties of different pickings of the same cotton.

Introductory Note.—

Experiments were carried out in the Punjab, United Provinces, Sind and Madras Presidency, with a view to ascertain the variation in fibre-properties of samples obtained from successive pickings. In the Punjab, three cottons—Early

Strains, *4F* and *289F*—were grown in the Physiology Plot at Lyallpur in 1930-31 and 1931-32. In view of the fact, however that only three pickings were common to the two seasons, proper analysis of the data could not be carried out. Furthermore, one of the seasons, 1930-31, was unusually mild, and, therefore, theresults pertaining to it are not typical and have, therefore, been left out. In the United Provinces, these experiments have been recently laid, and the results of one cotton—*Perso-American*—for 1939-40, for three pickings (2nd, 3rd and 4th at 12 days' interval) are available. At Sakrand, three cottons, Sind-*Sudhar*, *4F-98* and *H.97* were grown for two seasons 1937-38 and 1938-39, the number of pickings (at 10 days' interval) for the former being 7 and the latter 6. In Madras Presidency, experiments were conducted on eight cottons, from 1929-30 to 1937-38, but unfortunately the place of growth of the different cottons, as well as the season was varied indiscriminately. Consequently proper analysis of the data cannot be carried out. Thus one strain of *Cambodia* was grown at Coimbatore in 1929-30, one *Herbaceum* strain *2405* was grown at the *same* place, but in the next season 1930-31, while another *herbaceum* strain was grown at Hagari in 1933-34. Other cottons grown in 1933-34 were: one strain of *Northerns* at Nandyal, of *Cocanadas* at Guntur and *Karunganni* at Koilpatti. *Karunganni* was also grown in an earlier season (1930-31) at Coimbatore. In 1937-38, *Cambodia* cotton was grown at Shrivilliputhur. The number of pickings varied from 5 to 10 for the different cottons.

The three chief fibre-properties, *viz.*, fibre-length, fibre-weight per unit length and fibre-maturity were determined for all the experiments, at all the places, but in addition to these samples of Early Strain in 1931-32 were also examined for fibre-strength and fibre-rigidity. Fibre-strength was also determined in the case of 7 Madras cottons, while for three cottons, measurements for number of convolutions and mean ribbon-width were also made. The seed-weight, lint-index, ginning percentage, etc., were also measured in a few cases.

In view of the fact that the same plan has not been followed in all the experiments, which, furthermore, have not been repeated for a sufficient number of seasons, it is not safe to draw general conclusions. From the data available, however, it may be concluded that in general, the mean fibre-length showed a tendency to increase as the season progressed, and then decrease towards the end, the last pickings giving significantly shorter lint in most cases. Samples of last picking usually possessed lower fibre-weight per inch and contained smaller percentage of mature fibres as compared with the earlier pickings. We shall now give the main conclusions which may be drawn from the experiments carried out at each place:

(A) LYALLPUR:

(1) The last pickings of Early Strains and *4F* gave significantly lower mean-length as compared with the middle pickings.

(2) Both Early Strain and *289F* showed a tendency to give lower fibre-weight per inch as the season progressed; this was especially the case with Early Strain for which the last picking was significantly finer than the 3rd picking. This feature was reflected in the lower percentage of mature hairs, weaker fibres, and lower fibre-rigidity of the last picking.

(3) *4F* did not show any change in fibre-weight per inch or fibre-maturity in the samples collected from different pickings.

(B) UNITED PROVINCES:

(1) The lint obtained from 3rd and 4th picking was shorter in length than that collected from the 2nd picking.

(2) Both fibre-weight per inch and percentage of mature fibres were lower for the 4th (last) than for the 3rd picking.

(C) SAKRAND:

(1) *4F-98* did not show any marked change in any of the three fibre-properties in the successive pickings, except in 1937-38, when the low value of fibre-weight per inch for the last picking was associated with the lower percentage of mature hairs.

(2) For Sind-*Sudhar* and *H. 97*, the mean fibre-length of the 1st and the 2nd pickings is significantly higher than that of the last pickings, which have also given lower values for fibre-weight per inch and percentage of mature hairs.

(D) Madras Presidency :

(1) *Cambodia* cotton grown at Shrivilliputhur gave lower mean length for the samples obtained from the later pickings, but there is no difference in fibre-weight per inch and fibre-maturity in relation to different pickings.

(2) The results for fibre-weight per inch were conflicting : Some cottons showed a tendency to get coarser with the advance of season, while the others exhibited the opposite tendency. One cotton (*Karunganni* grown at Koilpatti) gave very low values of fibre-weight per inch and percentage of mature hairs.

(3) The fibres of last pickings of almost all the cottons were significantly weaker as compared with those of the 1st or 2nd picking.

(4) Out of the three cottons examined, two showed a considerable decrease in the number of convolutions per centi-metre for the last pickings as compared with the first few pickings.

(5) There was no difference in the values of mean ribbon-width for the samples collected from different pickings.

Summary Proceedings

OF THE

Forty-Third Meeting

OF THE

Indian Central Cotton Committee

HELD ON THE

17th and 18th January, 1941.

[Price Re. 1.]

INDIAN CENTRAL COTTON COMMITTEE.

43RD MEETING—17TH AND 18TH JANUARY, 1941.

(Held at Mercantile Chambers, Nicol Road, Ballard Estate, Bombay.)

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Present.

Mr. P. M. Kharegat, C.I.E., I.C.S., (*President*),
Sir Chunilal V. Mehta, K.C.S.I., (*Vice-President*),
Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,
Sir Purshotamdas Thakurdas, C.I.E., M.B.E.,
Sir Sorabji Saklatvala, M.L.A.,
Sir Shri Ram,
Dr. W. Burns, C.I.E.,
Rao Bahadur Sir Madhaorao Deshpande, K.B.E.,
Sir William Roberts, C.I.E., M.L.A.,
Dr. T. E. Gregory,
The Hon'ble Mr. V. Ramdas Pantulu,
Mr. Chunilal B. Mehta,
Mr. H. R. Stewart, C.I.E., I.A.S.,
Mr. W. J. Jenkins, C.I.E., I.A.S.,
Mr. P. H. Rama Reddi, I.A.S.,
Mr. J. C. McDougall, I.A.S.,
Mr. R. G. Allan, C.I.E.,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. Roger Thomas,
Rao Bahadur V. Ramanatha Ayyar,
Mr. T. R. Low, I.A.S.,
Mr. Chandulal P. Parikh,
Mr. A. P. Darlow,
Mr. L. F. H. Goodwin,
Mr. J. V. Joshi,
Dr. Chellaram Shewaram,
Mr. Jivandas Ladhabhai,
Sardar Bahadur Gurbachan Singh, M.L.A.,
Mr. G. P. Chakravarty,
Rao Bahadur R. V. Ramasundaram Pillai,
Rai Bahadur Lakshmi Raj Singh, M.L.C.,
Ch. Mohammad Yasin Khan, M.L.A.,
Mr. M. B. Patel, M.L.A.,
Mr. Y. R. Joshi,
Rao Bahadur S. S. Salimath,
Rao Saheb P. V. Deshmukh,

Mr. Y. G. Deshpande,

Dr. B. L. Sethi,

Mr. Suganchand Tapadia,

Mr. Jamalullah,

Dr. P. J. Gregory,

The Secretary (Mr. D. N. Mahta).

By invitation.

Mr. Parmanand, I.C.S., Director of Land Records, Central Provinces and Berar,

Mr. E. F. G. Gilmore, Deputy Director, Board of Scientific and Industrial Research, Calcutta,

Mr. R. G. Saraiya, C/o Messrs. Narandas Rajaram & Co., Bombay,

Dr. Nazir Ahmad, O.B.E., Director, Technological Laboratory, Matunga, Bombay,

Rai Saheb Kalidas Sawhney, Cotton Research Botanist, Parbhani,

Mr. K. Ramiah, M.B.E., Geneticist and Botanist, Cotton Genetics Research Scheme, Indore,

Mr. Mohammad Afzal, Cotton Research Botanist, Lyallpur,

Mr. Mazhar Husain, Director of Statistics, Hyderabad State,

Prof. R. H. Dastur, Plant Physiologist, Lyallpur,

Dr. R. Sankaran, Botanist in charge, Scheme for production of long staple cottons in Sind,

Mr. A. B. Kotak, .. } Additional members of Technological Research Sub-Committee repre-
Mr. R. T. Mirchandani, .. } senting the Karachi Cotton Association, Ltd.

Mr. H. B. Shroff, Principal, Government Central Textile Institute, Cawnpore,

Mr. C. J. Bocarro, M.B.E., (Assistant Secretary).

Letters or telegrams were received from the following members regretting their inability to be present at the meeting :—

Mr. Vishnu Sahay, I.C.S.,

Mr. J. Vonesch,

Mr. J. M. Doak,

Captain S. R. Pocock, M.C., M.L.A.,

Mr. T. G. Rama Iyer,

Mr. Nizam-ud Din Hyder,

Kanwar Raj Nath.

SUBJECT 1.—*Confirmation of Minutes.*

The Minutes of the previous meeting held on the 8th and 9th August, 1940, were confirmed.

SUBJECT 2.—*Retirement of members by rotation.*

The Secretary's note was recorded.

SUBJECT 3.—*Appointment of Vice-President and Sub-Committees.*

Sir Chunilal V. Mehta was unanimously re-elected Vice-President of the Indian Central Cotton Committee for the year 1941-42.

The following members were appointed to form the Standing Finance Sub-Committee for the financial year, 1941-42 :—

The Vice-President (*Chairman*),
The President (*ex-officio*),
Sir Purshotamdas Thakurdas,
Sir Sorabji Saklatvala,
Mr. Chunilal B. Mehta,
Mr. J. Vonesch,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. Chandulal P. Parikh and
Mr. W. J. Jenkins.

The Local Sub-Committee was constituted as follows :—

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Sir Sorabji Saklatvala,
Mr. Chunilal B. Mehta,
Mr. J. Vonesch,
Mr. W. J. Jenkins,
Mr. L. F. H. Goodwin,
Rao Bahadur Sir Madhaorao Deshpande,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. A. P. Darlow,
Mr. Chandulal P. Parikh.

The following were appointed to constitute the Agricultural Research Sub-Committee :—

I. **The President** (*ex-officio*),

II. **The Vice-President** (*ex-officio*),

III. **The Co-operative Banking Representative** (*ex-officio*),

IV. **Cotton Growers' Representatives :—**
Sir William Roberts,
Mr. Roger Thomas,
Sardar Rao Bahadur Bhimbhai R. Naik,
Rao Bahadur Sir Madhaorao Deshpande,

V. **Cotton Trade Representatives :—**
Sir Purshotamdas Thakurdas,
Mr. J. Vonesch,
Mr. Chunilal B. Mehta,
Mr. Chandulal P. Parikh,
Mr. L. F. H. Goodwin,
Dr. Chellaram Shewaram,

VI. Agricultural Officers :—

The Agricultural Commissioner with the Government of India (*ex-officio*),
Mr. H. R. Stewart,
Mr. W. J. Jenkins,
Mr. R. G. Allan,
Mr. P. H. Rama Reddi,
Mr. Vishnu Sahay,
Mr. J. C. McDougall,
Mr. T. R. Low,
Rao Saheb K. I. Thadani,
Mr. Nizam-ud Din Hyder,
Mr. T. G. Rama Iyer,
Sardar D. K. Jadhav,
Rao Bahadur S. S. Salimath,

VII. Additional Members :—

Dewan Bahadur Sir T. Vijayaraghavacharya,
Rao Bahadur V. Ramanatha Ayyar,
Dr. B. L. Sethi,
Rai Saheb Kalidas Sawhney,
Mr. K. Ramiah,
Mr. Mohammad Afzal,
Prof. R. H. Dastur,
Dr. R. Sankaran,
Mr. S. S. Pande,
Dr. V. G. Panse, and

VIII. The Secretary.

The following were appointed to form the Technological Research Sub-Committee :—

The President (*ex-officio*),
The Vice-President (*ex-officio*),
The Agricultural Commissioner with the Government of India (*ex-officio*),
Dewan Bahadur Sir T. Vijayaraghavacharya,
Sir Purshotamdas Thakurdas,
Sir William Roberts,
Sir Shri Ram,
Sir Sorabji Saklatvala,
Mr. Chunilal B. Mehta,
Mr. W. J. Jenkins,
Mr. J. Vonesch,
Mr. H. R. Stewart,
Mr. P. H. Rama Reddi,

Mr. J. C. McDougall,
Mr. Chandulal P. Parikh,
Rao Saheb P. V. Deshmukh,
Capt. S. R. Pocock,
Mr. E. F. G. Gilmore,
Dr. Nazir Ahmad,
Mr. L. F. H. Goodwin,
Dr. B. L. Sethi,
Rao Bahadur V. Ramanatha Ayyar,
Rai Saheb Kalidas Sawhney,
Mr. Y. G. Deshpande,
Mr. K. Ramiah,
Mr. Roger Thomas,
Dr. R. Sankaran,
Two representatives each of :—
The Bombay Millowners' Association,
The Ahmedabad Millowners' Association,
The East India Cotton Association, and
The Karachi Cotton Association.

The following were appointed to form the Cotton Forecast Sub-Committee :—

The President (*Chairman*),
The Vice-President,
The Agricultural Commissioner with the Government of India (*ex-officio*),
The Director-General of Commercial Intelligence and Statistics,
Dr. T. E. Gregory,
Sir William Roberts,
The Director of Agriculture, Bombay,
Do. do. Madras,
Do. do. Punjab,
Do. do. United Provinces,
Do. do. Central Provinces & Berar,
Do. do. Sind,
Do. do. H.E.H. the Nizam's Government,
The Commissioner of Agriculture, Baroda,
The Director of Statistics, H.E.H. the Nizam's Government,
The Director of Land Records, Central Provinces and Berar,
The Deputy Director of Statistics,
The Statistical Officer, Department of Industries and Commerce, Madras,
Mr. J. Vonesch,
Mr. L. F. H. Goodwin,

Mr. Chunilal B. Mehta,
Mr. Roger Thomas and
Dr. V. G. Panse.

The following were appointed to compose the Wider Markets Sub-Committee :—

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Dr. T. E. Gregory,
Dewan Bahadur Sir T. Vijayaraghavacharya,
Sir Sorabji Saklatvala,
Dr. W. Burns,
Sir William Roberts,
Mr. Chandulal P. Parikh,
Mr. H. R. Stewart,
Mr. W. J. Jenkins,
Mr. P. H. Rama Reddi,
Mr. J. C. McDougall,
Mr. Vishnu Sahay,
Mr. V. Ramdas Pantulu,
Mr. J. Vonesch,
Rao Saheb K. I. Thadani,
Mr. Nizam-ud Din Hyder,
Mr. Chunilal B. Mehta,
Mr. L. F. H. Goodwin,
Sardar Rao Bahadur Bhimbhai R. Naik,
Mr. Roger Thomas,
Rao Saheb P. V. Deshmukh,
Kanwar Raj Nath,
Seth Jivandas Ladhabhai,
Mr. Y. G. Deshpande,
Dr. Nazir Ahmad,
Mr. R. G. Saraiya,
Rai Saheb Kalidas Sawhney.

The constitution of the Standards Sub-Committee as follows was recorded :—

Mr. C. P. Bramble,	Representative of the Imperial Council of Agricultural Research.
Mr. Haridas Madhavdas, Mr. Jamnadas Ramdas,	Representatives of the East India Cotton Association, Ltd.
Mr. W. S. Priestly, Mr. Kisharam Lekhraj,	Representatives of the Karachi Cotton Association, Ltd.
Rao Bahadur Sir Madhaorao Deshpande, Mr. Suganchand Tapadia	Representatives of Cotton Growers of Berar tract.

Mr. Y. R. Joshi, Mr. Ardeshir Jamshedji Kapadia,	Representatives of Cotton Growers of Broach tract.
Mr. Vadilal Chunilal Doshi, Mr. Vrajilalbhai Narottamdas Trivedi,	Representatives of Cotton Growers of Mathia tract.
Mr. Mulchand Vardhaman Shah, Mr. Bansilal Jivanlal Desai,	Representatives of Cotton Growers of Dholleras tract.
Mr. F. B. Lokshmeshwar, Mr. S. T. Patil,	Representatives of Cotton Growers of Kumpta tract.

The following were appointed to constitute the Research Students Selection Sub-Committee :—

The President,
The Vice-President,
Dewan Bahadur Sir T. Vijayaraghavacharya,
Dr. W. Burns,
Dr. Nazir Ahmad,
Mr. K. Ramiah and
The Secretary.

The following members were appointed to form the Cotton Ginning and Pressing Factories Sub-Committee :—

(*a*) **The President,**

(*b*) **The Vice-President** (*ex-officio*),

(*c*) **Five trade members resident in Bombay Province :—**
Sir Purshotamdas Thakurdas,
Sir Sorabji Saklatvala,
Mr. J. Vonesch,
Mr. Chandulal P. Parikh,
Mr. L. F. H. Goodwin.

(*d*) **One trade member from each of the following Provinces :—**

Madras	**Mr. J. M. Doak,**
Punjab	**Sir William Roberts,**
United Provinces ..	**Captain S. R. Pocock,**
Central Provinces ..	**Rao Saheb P. V. Deshmukh.**

(*e*) **The Co-operative Banking representative** (*ex-officio*),

(*f*) **Two representatives of Agricultural Department :—**
Mr. W. J. Jenkins,
Mr. J. C. McDougall.

(*g*) **Additional Members :—**
Dr. Chellaram Shewaram and
Dr. Nazir Ahmad.

SUBJECT 4.—*Provincial Cotton Committees.*

(i) *Proceedings of the Sind Cotton Committee.*

Attention was drawn to the omission in the draft Rules notified by the Sind Government under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act of the Note under Rule 3 (1) which was approved by the Committee, and it was decided to address the Provincial Government on the point. The proceedings were recorded.

(ii) *Proceedings of the Bengal Cotton Sub-Committee.*

The proceedings were recorded.

SUBJECT 5.—**Report of Standing Finance Sub-Committee.*

The Report of the Standing Finance Sub-Committee was approved.

SUBJECT 6.—†*Report of Local Sub-Committee.*

Reference was made to the possibility of increasing, by chemical treatment, the strength of cloth and yarn made of Indian cotton to enable it to be utilised in the manufacture of belting and tyres. The fabric of belting, it was pointed out, could be made in Indian mills, but the machinery necessary for impregnating the fibre with rubber and for pressing the several layers together was not available in the country and no progress could be made in this direction during the war. As regards the manufacture of tyres, it was stated that there was little chance of medium and short staple cottons being used for this purpose.

It was decided that experiments should be carried out at the Technological Laboratory to see whether by some process of chemical treatment Indian cottons could be used for the manufacture of belting and tyres.

The Report of the Local Sub-Committee was approved.

SUBJECT 7.—*Rules under United Provinces Cotton Pest Control Act, 1936—Letter from United Provinces Government.*

The letter from the United Provinces Government intimating that the question of finally promulgating the rules under the United Provinces Cotton Pest Control Act had been dropped for the present was recorded.

SUBJECT 8.—*Adoption of measures for the protection of the marketing of the cotton crop in Sind—Reply from Government of Sind.*

The reply from the Government of Sind was recorded.

SUBJECT 9.—*Re-orientation of cotton breeding work—Direction and guidance to cotton breeders—Reference from January 1940 meeting.*

Certain forms intended to accompany proposals for breeding and seed distribution schemes and their extensions and also progress reports on seed distribution schemes were approved as an experimental measure.

A set of the forms‡ as finally approved is attached.

SUBJECT 10.—*Overlapping between seed distribution schemes and schemes for maintenance of nucleus of pure seed of improved varieties—Reference from last meeting.*

At the meeting of the Agricultural Research Sub-Committee in August last, the view was expressed that since several seed distribution

*Appendix I (page 36). †Appendix II (page 42). ‡Appendix III (page 44).

schemes were running in connection with varieties that had also got a nucleus seed scheme, there was a certain amount of avoidable overlapping, and it was agreed that the whole question should be considered at this meeting.

The Agricultural Research Sub-Committee which considered the subject reported as under :—

> " The Sub-Committee recommended that the alternative shown in No. 2 in the last paragraph of the Secretary's note, *viz.*, that separate nuclei schemes should be maintained only for such approved varieties for which for the time being there is no seed distribution or breeding scheme in operation, should be accepted, but that the existing sanctioned schemes should continue until March 1942 to allow for any adjustments in the departmental budgets that may be required."

The Report of the Sub-Committee was adopted.

SUBJECT 11.—*Progress Report on Scheme for maintenance of nucleus of pure seed of improved varieties of cotton in Madras Province.*

This scheme, which was sanctioned in January 1938 for a period of five years and came into operation in September 1938, has for its object the maintenance of a nucleus of pure seed of the following three varieties of cotton in Madras Province :—

(1) *Co. 2* on Central Farm, Coimbatore,

(2) *K1* at Agricultural Research Station, Kiolpatti, and

(3) *H1* at Agricultural Research Station, Hagari.

On the recommendation of the Agricultural Research Sub-Committee, the Progress Report was approved.

SUBJECT 12.—*Note on economic results obtained from revised Jayawant and Gadag No. 1 Seed Distribution Scheme, Bombay.*

The Committee could not understand why the cotton crop produced from the pure seed distributed under this scheme should be sold in a mixed condition as indicated in the report. The Committee recommended that, in order to keep the seed pure, it might be sold in sealed bags such as is the practice in Madras, and further, that the approved agents by whom a part of the seed was now being sold should be replaced, where possible, by efficient co-operative societies. The Director of Agriculture, Bombay, intimated that the difficulty would be overcome to some extent by the application of AGMARK to pure Jayawant cotton in the near future. It was agreed that steps should be taken to ensure that the cultivators who wish to get pure seed should be able to do so and that the possibility of arranging for separate ginning should be explored further and propaganda undertaken amongst the merchants and the growers to improve the situation.

SUBJECT 13.—*Final Report on Plant Puller Propaganda Scheme in Surat, Broach and Panch Mahals Districts.*

The scheme had for its object the eradication of the spotted bollworm by the uprooting of cotton stalks by means of plant pullers. As a result of the scheme, it was reported, the cultivators of the Broach

and Surat Districts had adopted the practice of removing cotton stalks immediately after the close of the picking season. It was estimated that in the tracts north of the Narbada, over 95% of the area, chiefly in the talukas of Broach and Wagra, was cleaned before the 15th May every year, whilst in Jambusar the percentage was said to be 50. In the tract south of the Narbada, in the talukas of Ankleshwar, Olpad and Chorashi, the percentage of the cleaned area was estimated to be 82, 70 and 53, the average for the whole tract being 51. The number of plant pullers in use in both the Surat and Broach districts was stated to be about 35,000.

The Committee recommended that legislation should be introduced in the Bombay Province, similar to that already in force in the Baroda State, and made applicable, in the first instance, to areas in which clean-up measures had been adopted by a majority of the local cultivators. It further drew attention to the fact that the average acreage dealt with per plant puller sold had gone down from 17 in 1937 to 11 in 1940; the reasons for this decline was not clear. The Director of Agriculture intimated that the question of introducing legislation in this connection was already under the consideration of the Bombay Government.

The Report was approved.

SUBJECT 14.—*Utilisation of facilities for training available under the Cotton Genetics Research Scheme, Indore.*

In view of the paucity of openings for employment of research scholars after completion of their training, enquiry was made of Directors of Agriculture in the Provinces and States as to whether advantage could not be taken of the facilities available under the new Cotton Genetics Research Scheme, Indore, for training men already in service in modern methods of plant breeding and genetics (with special reference to cotton), the application of statistical methods to genetics and plant breeding and the technique of field experiments for varietal and other trials. The replies received were considered by the Committee and it was recommended that the training for persons already in service who are deputed to Indore for the purpose should be of ten months from May to March; a short refresher course would not be practicable, as it is necessary to adjust the training to the period of the crop. It was decided that the pay and travelling allowance of the men deputed for training should be borne by the Province or State concerned but, in addition, the Committee should pay them 25% of their pay to cover the additional expenditure that would have to be incurred by them. In this connection, certain administrative points were raised, such as, employment of substitutes for Committee's servants deputed for training, and the allowances to be paid to an officer taking advantage of the training whilst on leave, etc., but it was decided that each such case should be considered by the Provincial Governments on its own merits, in consultation with the Committee, if necessary. It was understood that only two or three men could be trained at a time, and it was, therefore, agreed that two men might be taken from the Provinces and States every year, and in addition one scholarship as at present might be given in future in alternate years. If, however, there were no candidates from the Provinces and States, the number of scholarships might be correspondingly increased.

SUBJECT 15.—*Designing of field experiments and examination of statistical data connected with the schemes of the Committee—Desirability of utilising expert statistical help available under the Cotton Genetics Research Scheme, Indore, to obtain uniformity in—*

A note by the Secretary on the desirability of adopting a uniform procedure in the matter of lay-out, statistical analysis, interpretation and presentation of results of experiments carried out under the schemes of the Committee and the possibility of utilising the services of the Statistical Assistant attached to the Genetical Research Scheme at Indore was considered and the Committee endorsed the suggestion that the experimental work of the Committee should be carried out in collaboration with the Statistician at Indore and that the lay-out of new experiments should be done in consultation with him. In addition, the workers might consult him on any specific problem that may arise from time to time. It was emphasised that no difficulty had been experienced by the Imperial Council of Agricultural Research which had adopted a similar procedure in connection with its schemes, and that consultation with the Statistician was laid down as one of the conditions under which grants were given. There were many points in which a man immediately in charge of an experiment who had not got advanced statistical training might possibly go wrong, and collaboration between the two was most desirable. The question as to whether the Statistician should pay visits to provinces was raised, and it was agreed that a certain amount of touring might be necessary and that suitable provision for this purpose might be made in the budget with the approval of the Standing Finance Sub-Committee.

SUBJECT 16.—*Disparity between the market prices of desi and American cotton seed—Need for propaganda to dispel the prejudice against the use of American type cotton seed—Note by Mr. Roger Thomas.*

At the last meeting of the Committee, during discussion on the Final Report on the cotton marketing survey scheme in the Punjab, reference was made to the disparity between market prices of *desi* and American cotton seed and the desirability of undertaking propaganda to dispel the reported prejudice against the latter type of seed was emphasised. After some discussion it was decided that Mr. Roger Thomas should put up a comprehensive note on the subject for consideration at this meeting. The note in question was received and it was decided that the matter should be referred to the Provincial Cotton Committees of Sind, the Punjab and other Provinces concerned for consideration from all aspects including the possibility of a fall in the price of *desi* seed occurring as a result of propaganda in favour of fuzzy seed or owing to larger quantities of delinted seed becoming available. The Committee was of the view that it was desirable to know to what extent fuzzy or naked seed was consumed locally and exported outside the Province. It was further decided that the Imperial Council of Agricultural Research should be requested to include experiments on cotton seed in the scheme financed by them at Lyallpur for the determination of the feeding values of various oil seeds and oil seed cakes. It was pointed out that too much should not be made of the supposed loss of Rs. 66 lakhs as, at the most it meant that the Indian cattle breeder was asked to pay this sum to the Indian cotton grower.

SUBJECT 17.—*Final Report on Hyderabad Pink and Spotted Bollworm Scheme—Remarks of the Imperial Entomologist.*

In November 1938, the Committee considered the Final Report on this Scheme, and decided that it should be referred to the Assistant Professor of Entomology, United Provinces, and the Entomologist to Government, Punjab, for opinion. Their remarks as well as those of the Cotton Research Botanist, Parbhani, under whose administrative control the Entomologist in charge of the scheme had worked, were considered by the Committee in January 1940, and it was decided that the report should be revised on the lines proposed by the Cotton Research Botanist and the revised report referred to the Imperial Entomologist for opinion. In the light of the remarks of the Imperial Entomologist, it was decided that the report should be further revised and published in the usual way.

SUBJECT 18.—*Progress Report on Madras Nadam Cotton Breeding Scheme.*

This scheme has for its object the production of suitable annual cottons capable of replacing *Nadam*, a perennial variety, the continual presence of which in the field renders difficult effective control of certain insect pests like stem weevil and bollworm. The object is sought to be achieved either by crossing *Nadam* with annual types or by the introduction of suitable early growing varieties.

The report indicated that attempts made to isolate early maturing and productive types in *Nadam* variety by simple selection had not proved successful and that the introduced and hybridised material did not contain the desired combinations of characters.

The Committee was informed that, on the termination of the scheme, the work would be continued by the Agricultural Department, Madras. The Committee noted this with satisfaction and approved of the Report.

SUBJECT 19.—*Progress Report on scheme for improvement of Mungari cotton in Madras Province.*

The object of this scheme is to evolve strains suitable for red soils, combining the quality of the *Westerns*, with the yield of *Mungari* to replace the inferior *Mungari*, the existence of which gives opportunities for undesirable mixing with the result that the better cottons of the tract fail to get their legitimate prices.

During the year *V. 434* and *x 4383* were again found to be satisfactory. Of the 345 cultures under progeny row trials, 6 were found to be superior to the control in respect of yield.

On the recommendation of the Agricultural Research Sub-Committee the Progress Report and programme of work were approved.

SUBJECT 20.—*Progress Report on Scheme for Improvement of Cocanadas Cotton in Madras Province.*

This scheme has for its object the improvement of the yield and ginning percentage of *Cocanadas* cotton, preserving at the same time the light pinkish colour of its lint owing to which it is in great demand for the manufacture of dyed yarns.

During the period under review, the cotton areas of Nellore, Guntur and Krishna Districts were surveyed and samples of 642 single plants and 53 bulk lots were collected.

On the recommendation of the Agricultural Research Sub-Committee, the Progress Report and programme of work were approved.

SUBJECT 21.—*Cotton Grading and Marking Rules—Proposed application to V. 434 cotton—Reference from Agricultural Marketing Adviser to the Government of India.*

The proposal relates to the grading and marking under the AGMARK, on an experimental basis, of *V. 434*, grown, ginned and pressed in the Central Provinces and Berar.

The Committee accepted the Rules with 97% purity for the current year on the understanding that the percentage of purity would be raised to, at least 99% from the next year. It was agreed that item (*c*) under the head " General characteristics " on page 2 of the enclosure to the note should be made applicable to " Agmark " *Verum* also. It was decided that the lead given by the Provinces which had introduced the system of " Agmark " should be brought to the notice of other Provinces with a view to the adoption by them of similar measures. It was further decided that the foot-note to the draft specification should be amended to read as follows :—

'A certified " A " class seed farmer means any grower duly registered by the appropriate Government Department to grow *Verum 434* of approved purity.'

SUBJECT 22.—*Re-transfer of control and supervision of Committee's seed distribution and extension schemes in the Bombay Province from Rural Development Department to Agricultural Department.*

The Committee noted with satisfaction the orders passed by the Government of Bombay regarding the re-transfer of the control and supervision of the Committee's seed distribution schemes from the Rural Development Department to the Agricultural Department with effect from the 1st January, 1941.

SUBJECT 23.—*Bengal Comilla Cotton Scheme—Observations of Second Economic Botanist, Bengal, on.—*

The Bengal Comilla Cotton Scheme was sanctioned by the Committee in February 1933 for a period of five years, with the object of improving the important commercial characters of *cernuum* cotton. The scheme came into operation in December 1934. In August 1939, it was extended up to the 31st March 1942 and, at the same time, it was decided that the work should be concentrated entirely on survey.

The tracts with which the scheme is concerned were visited by the Second Economic Botanist, Bengal, in August and November 1940, who reported that 95% of the cottons in the Chittagong Hill Tracts are *neglectums* and that, therefore, in view of the apparent absence of *cernuum*, it might be desirable to revise the cotton policy to be followed in that area.

The Committee noted with regret that it should have taken nearly seven years to establish that there was, in fact, very little *cernuum* cotton to be met with in the tract for which the Comilla Cotton Scheme was sanctioned. In view, however, of the explanation given in the Second Economic Botanist's note, it was agreed that the scheme should be continued, but that more attention should be paid to the improvement of local *neglectum* varieties and attempts made to test whether useful ecotypes suitable for Chittagong hill tracts can be isolated from the *cernuum* collections made in the Garo hills of Assam. The present recommendation, which was a deviation from the original object of the scheme, had been necessitated owing to the reported absence or very small occurrence of *cernuum* cotton in the tract concerned, and the desirability of finding out types in *neglectums* suitable to the requirements of the area and for breeding purposes.

SUBJECT 24.—*Scheme for cultivation of long staple cotton in Bengal financed by Provincial Government—Request for provision of a Supervising Officer.*

The proposals received from the Bengal Government requesting the Committee to provide a Supervising Officer to hold charge of the scheme for the production of long staple cottons in Bengal, jointly financed by the Bengal Millowners' Association and the Provincial Government, for the remaining period of 2 years from April 1941 were considered and it was agreed that the Committee should finance for two years the appointment of a Supervising Officer provided he is a Botanist and would do botanical work in addition to supervising the six centres, and on condition that all expenditure in connection with such botanical work would be met by the Bengal Province. The Committee was of the opinion that there should be close collaboration between the Supervising Officer and the Cotton Research Officer in charge of the Comilla scheme. As the scheme has only two more years to go, the provision for leave salary was not considered necessary. The travelling allowance was reduced to Rs. 1,000 a year and provision was made for a typist-clerk on Rs. 25 per mensem.

SUBJECT 25.—*Rules under Baroda Agricultural Produce Markets Act.*

The rules framed by the Baroda Durbar, under the Agricultural Produce Markets Act, were approved.

SUBJECT 26.—*Scheme for extension and marketing of V. 434 cotton in Central Provinces and Berar—Proposed extension of—.*

The proposals received from the Director of Agriculture, Central Provinces and Berar, for the extension of the above Scheme up to the 29th February, 1944, were considered and approved.

The Committee was given to understand by the Director of Agriculture, Central Provinces, that the Provincial Government would agree to take necessary steps for the maintenance of the purity of the strain after the termination of the present scheme.

SUBJECT 27.—*Scheme for distribution and marketing of Buri 107 cotton in Burhanpur Tehsil, Central Provinces—Proposed extension of—*

The proposals received from the Director of Agriculture, Central Provinces and Berar, for the extension of the above Scheme for a period of 3 years, up to the 29th February, 1944, were considered and approved.

The Committee was strongly of the opinion that there was a good case for enforcing legislation to prevent mixing of *Buri 107* with other cottons in this area. It was accordingly decided that the Government of the Central Provinces and Berar should be requested to take immediate steps to pass the necessary legislation in this connection.

SUBJECT 28.—*Proposed extension of appointment of Technological Assistant, Sind.*

The extension of the appointment of the Technological Assistant, Sind, from the 5th June, 1941, to the 18th April, 1945, was approved.

SUBJECT 29.—*Scheme for Cotton Marketing Survey in the Punjab—Final Report on—Reference from the last meeting of the Committee.*

The Committee at its meeting in August 1940, while approving of the final report on the above scheme, suggested that enquiry should be made of the Director of Agriculture, Punjab, regarding the action he proposed to take on the findings in the report, and also that the report should be forwarded to the Agricultural Marketing Adviser to the Government of India for remarks. The Agricultural Marketing Adviser suggested in his reply that the question of the possibility of utilising *kapara*, a woolly *desi* cotton, in the manufacture of army blankets should be taken up with the Supply Department. The Agricultural Marketing Adviser further suggested that a similar and more extended survey of the whole industry should be conducted in all the Provinces and States throughout India.

The Committee considered the above suggestions and expressed the view that there was no necessity for undertaking a central scheme on the lines suggested by the Marketing Adviser to the Government of India. As the cost of the Punjab Scheme was moderate and the survey was made within a period of 18 months, the Committee suggested that the summary of the report of the Punjab Cotton Marketing Survey with the outline of the enquiry should be circulated to the Governments of other Provinces and States for obtaining their views, in consultation with the local marketing officers, on the desirability of starting similar schemes in their areas.

SUBJECT 30.—*Utilisation of mill waste as manure.*

At the meeting of the Committee in January 1940, during discussion on the question of finding alternative uses for short staple Indian cotton, it was suggested that the possibility of using mill waste as manure should be investigated. The agricultural officers in the various provinces and States were accordingly addressed and their replies were considered by the Committee. It was decided, however, that no action in this connection was necessary, as mill waste was already being used as manure wherever feasible.

SUBJECT 31.—*List of papers sent to Imperial Council of Agricultural Research for publication.*

The list of papers forwarded to Imperial Council of Agricultural Research for publication was recorded.

SUBJECT 32.—*Progress Report on Punjab Physiological (Cotton Failure) Research Scheme.*

This scheme which was sanctioned in August 1933 for a period of five years is concerned with the investigation of the causes leading to the partial failure of the cotton crop in the Punjab. It was extended in August 1939 for a period of three years to confirm the results obtained.

The Agricultural Research Sub-Committee considered the Progress Report and made the following observations :—

" The Sectional Sub-Committee which examined this subject in detail reported as follows :—

' *The Chairman* briefly reviewed the main points in the report. *Mr. McDougall* suggested that, if feasible, it would be desirable to refer the report to the Soil Science Committee of the Imperial Council of Agricultural Research. *Dr. Lander* stated that he had studied all the previous reports and had been in close contact with the work. He considered that we now had an accurate picture of the causes of *Tirak* but that the application of remedies was the real difficulty. Salinity, nitrogen deficiency and alkalinity, either singly or combined, interacting with the climate, caused *Tirak*. As it was impossible to prognosticate the weather, one could not in advance state whether there would be a great deal of *Tirak* in a particular year or not. He considered that if external conditions were such as to cause a movement of salts into the root layer of the soil then *Tirak* occurred. The application of nitrogen at the proper season, washing out of all salts and the overcoming of alkalinity were apparently the things to be done. But as yet there was no real practical method known of getting rid of the subsoil alkaline layer. *Mr. Roger Thomas* gave a case from his own farm where *Tirak* was bad : another of a place where the water table was 10 to 11 inches below the surface on a free working soil, with no salt on the surface. The *Tirak* had caused a drop of 6 maunds per acre out of an expected 15 maunds. The cause of the drop was unexplained and might have been due either to an upward movement of salt in the soil or to severe winds which occurred day and night at the time of optimum cotton development. The Sub-Committee considered the method of estimating nitrogen deficiency in the plant by the tannin tests as important. Experimental evidence indicated an increase both in the number of bolls and in the weight of *kapas* per boll, *i.e.*, a measure of improved opening, due to increasing doses of sulphate of ammonia.

The Sub-Committee then considered various sections of the report in detail.

(1) *Soils with nitrogen deficiency.—Dr. Lander*, from work done in his laboratory in 1928, confirmed the fact that deficiency of nitrogen is a common feature in the cotton soils in the Punjab at the fruiting stage.

(2) *Soils with salinity in the subsoil.*—Among these were to be found soils which produced *Tirak* in years of physical drought but not in other years. The Sub-Committee desires special watch to be kept on such places so that the recurrence of this phenomena might be recorded. *Prof. Dastur* indicated that he had already got observations of this type for at least two seasons. *Mr. Roger Thomas* enquired why Khanewal and Mian Channun only 25 miles away had so different an incidence of *Tirak* in the present year, *Tirak* being intense at Mian Channun. *Sir William Roberts* confirmed this statement and said that Khanewal cotton was getting Rs. 12 to Rs. 15 more per *khandy* this year on account of the absence of *Tirak* which meant better seed maturity and strong lint. *Mr. Roger Thomas* suggested that questions as to which of the climatic factors were determining deserved further investigation. *Mr. Stewart* mentioned the various factors which were likely to have reduced *Tirak* on the British Cotton Growing Association's farm and for the whole area. There had been two inches of rain which might have made the difference. It was not known whether Mian Channun had this rain or not.

Light sandy soils with sodium clay in the subsoil.—Prof. Dastur had stated that *Tirak* in its most intense form occurred on these soils and that sulphate of ammonia produced beneficial effects on the vegetative growth but did not cure *Tirak*. More bolls were produced but they all opened badly. This condition, therefore, is the most difficult to remedy. Prof. Dastur pointed out that all the three conditions causing *Tirak* might and did occur within one field, still further complicating the question of remedy. *Mr. Stewart* mentioned that the question also had been raised at the Water Logging Board in the Punjab as to whether the ultimate solution is not soil reclamation by the wholesale washing down of salts in the soil. *Dr. Lander* was also of opinion that the general deterioration of soil conditions in the Punjab, which was a bigger question, including the *Tirak* within it, required attention including this whole matter of reclamation. The Sub-Committee also studied the available results of the experiments on sowing dates. The details of the experiments in the different tracts for 1940-41 are not yet available. The report was approved.'

The observations of the Sectional Sub-Committee were endorsed by the full Agricultural Research Sub-Committee and the Progress Report was approved."

The report of the Sub-Committee was adopted by the Indian Central Cotton Committee.

SUBJECT 33.—*Final Report on Scheme for investigation of Heliothis obsoleta as a pest of cotton in Central Provinces and Berar.*

This scheme was sanctioned by the Committee in January 1938, for a period of one year, with the object of determining whether (1) *Heliothis obsoleta* attacking cotton in the Central Provinces and Berar is the same pest as the common gram caterpillar or a special race of the species which attacks cotton in particular, (2) it is identical with the American bollworm of cotton and (3) it is likely to prove a serious pest of cotton in the Central Provinces. The scheme came into operation on the 25th June, 1939, and was extended for a period of five months from the 25th June, 1940.

The final report was first considered by the Agricultural Research Sub-Committee which reported as follows :—

" The three points to settle which this scheme was sanctioned are :—

(1) Is *Heliothis obsoleta* attacking cotton in the Central Provinces and Berar the same pest as the common gram caterpillar or a special race of the species which attacks cotton in particular ?

(2) Is it identical with the American bollworm of cotton ?

and

(3) Is it likely to prove a serious pest of cotton in the Central Provinces ?

The final report gives an affirmative answer to questions (1) and (2). *Heliothis obsoleta* is identical with that found on gram and various other food plants in India and also with the American bollworm of cotton. As regards (3), the report indicates that in years when other bollworms are in plenty, *Heliothis* is also in plenty and in years when other bollworms are few, *Heliothis* is also scarce. In the season June to November 1940 all bollworms were scarce, and this has been the case for the last few years. The Sub-Committee was of the opinion that the Central Provinces Agricultural Department should continue, as a matter of routine, to carry out observations on *Heliothis obsoleta*, (since it is impossible to say in advance whether in any particular year bollworms are likely to be serious or not) with a view to getting further facts regarding its importance as a pest. The report was approved and it was recommended that it should be published as a bulletin of the Central Provinces Agricultural Department."

The Indian Central Cotton Committee endorsed the recommendations of the Agricultural Research Sub-Committee.

SUBJECT 34.—*Progress Report on Madras Pempheres Scheme.*

This scheme was sanctioned in 1925 for a period of five years, but, owing to difficulty in securing a competent plant physiologist, it remained in abeyance till 1930 when it was decided to send for training to England two officers selected from the Madras Agricultural Department, with a view to their eventually occupying the posts of Physiological Botanist and Bio-Chemist under the scheme, and in the meanwhile to start preliminary investigations under the direction of the Cotton Specialist, Coimbatore. The scheme commenced formally in 1931 when the two officers referred to were sent for training. A Special Sub-Committee was appointed in August 1934 to inspect and report on the scheme and, on its recommendations, the entire scheme was revised in February 1935.

The scheme as originally sanctioned consisted of two investigations, one for the control of cotton stem weevil (*Pempheres affinis*) by botanical, entomological and biochemical methods and the other for the evolution of a strain in *Karunganni* cotton resistant to the harmful effects of the February rains. The Committee, at its meeting held in July 1938, decided to close down the entomological and physiological investigations on the 31st October, 1938, and to extend the bio-chemical research up to 31st August, 1939, and the botanical research up to 31st October, 1941.

During the year under review, 7178/7 and 7176/5C—derivatives of *Moco* x *Co.2* cross—were found to be on par with the control *Co.2* in respect of yield but far superior to it in the degree of resistance.

Periodical examination of the resistant strain—7178/7 and the susceptible type—*Co.2*—showed that the former strain with its capacity to gum the infestations from the early stages was distinctly more efficient in resisting the weevil attack than the susceptible type *Co.2*.

The Agricultural Research Sub-Committee which considered the the Progress Report made the following recommendations.

"The Sub-Committee recommended that in the tables the actual yield should be given as well as the adjusted yields.

Sir William Roberts asked whether thick sowing could not be used to compensate for the mortality due to *Pempheres*. *Rao Bahadur Ramanatha Ayyar*, in reply, said that thick sowing also reduced the incidence of the pest and added that in the districts the *ryots* were sowing at the rate of 20 lbs. per acre against the 10 lbs. used on the experiment stations. It was also suggested that the effect of growing another crop between the rows of cotton might have some effect on the pest. Attention was drawn to the comparatively high standard error in certain of the tests but it was pointed out that this was due to the natural variability of the material which consisted of various crosses and did not vitiate the conclusions drawn. The report was approved.

It was agreed that the possibilities of the cultivation methods as a measure of control should also be investigated."

The recommendations of the Agricultural Research Sub-Committee were endorsed by the full Committee and the Progress Report was approved.

SUBJECT 35.—*Madras Pempheres Scheme—Proposed extension of—.*

The proposals received from the Madras Government for the extension of the scheme, for a further period of 18 months from the 1st November, 1941, were considered and approved. The Committee noted that it was not proposed to do further selection.

SUBJECT 36.—*Progress Report on Scheme for investigating the possibilities of control of Cotton Stem Weevil of South India.*

At the meeting of the Committee held in July 1938, during discussion on the proposals for the extension of the Madras Pempheres and Physiological Scheme, it was suggested that the investigation on the life history of *Pempheres* should be completed and that in the event of the Madras Government not being able to undertake this work, a scheme should be put up for the consideration of the Committee. A scheme for investigating the possibilities of control of the cotton stem-weevil of South India for a period of one year was accordingly submitted by the Government of Madras and approved by the Committee in November 1938. It came into operation on the 30th October, 1939, and was extended for 3 months, from the 30th October, 1940.

The Agricultural Research Sub-Committee made the following observations on the Progress Report :—

> " This report refers particularly to three districts in Madras. In one of these, Malabar, although there is no cotton, there is heavy incidence of the weevil on many kinds of wild plants. In Salem, the weevil occurs in small numbers on alternative food plants and particularly on *Hibiscus esculentus*, but it is a serious pest in two talukas on the perennial variety *Nadam* where heavy multiple infestations accompanied by large size galls begin to appear in the second year of its standing. In North Arcot, the weevil is found on alternative food plants like *Hibiscus esculentus* but does not occur as a pest on cotton in any of the places surveyed. The Sub-Committee desired to emphasise the point, namely, the potential menace to cotton from—
>
> (1) the occurrence of the pest on alternative food plants,
>
> (2) its heavy occurrence on the perennial *Nadam* cotton and suggested that the present work should be followed up by a study to find out :—
>
> (*i*) whether the races infecting alternative hosts will also infect cotton and
>
> (*ii*) whether there is not a case for the elimination of the *Nadam* variety.
>
> In this connection, the Director of Agriculture expressed the view that, while the Provincial Government would be prepared to carry out investigations to find out whether the races infecting alternative hosts would also infect cotton, he did not think that the elimination of the *Nadam* variety was a practical proposition, as there was no alternative variety at present that could be recommended to the cultivator.
>
> Subject to the above remarks, the Progress Report was approved."

The report of the Agricultural Research Sub-Committee was adopted by the full Committee.

SUBJECT 37.—*Observations of Agricultural Research Sub-Committee on Progress Report on Scheme for Improvement of Mathio Cotton at Amreli—Letter from Commissioner of Agriculture, Baroda.*

The explanation given in the letter of the Cotton Breeder, North Gujerat, was considered to have completely cleared up the difficulty and met the Committee's previous remarks.

SUBJECT 38.—*Progress Report on Jalgaon Cotton Breeding Scheme—Reference from last meeting.*

The supplementary report containing the laboratory tests on farm samples of *Banilla* and *N. R.* 6 and commercial samples of *Jarila* cotton,

received from the Director of Agriculture, Bombay Province, indicated that the spinning performance of *Jarila* grown in six talukas varied from 28s to 35s highest standard warp counts, and that during the past two years the cotton maintained its performance when grown in the same area.

The Agricultural Research Sub-Committee which considered the supplementary report reported as follows :—

"The Sub-Committee approved the supplementary report.

In connection with *Jarila* cotton, the Director of Agriculture, Central Provinces, stated that this cotton was spreading quickly in the Central Provinces and Berar and was fetching a premium and that there was likely to be a heavy demand for its seed. He was in correspondence with the Director of Agriculture, Bombay, regarding the possibility of obtaining a sufficient quantity of approved seed of this cotton, but before taking any further action, he would like to know the views of the Committee as to whether the seed of this cotton should be distributed by the Department. The Sub-Committee, however, desired to make it clear that while the cultivators who chose to grow *Jarila* were at full liberty to do so, the Committee could not at this stage undertake the responsibility of asking the Central Provinces Department of Agriculture to have any hand in the distribution of *Jarila* cotton seed in the tracts in the Central Provinces and Berar in which it is reported to be spreading."

The report of the Sub-Committee was adopted.

SUBJECT 39.—*Progress Report on scheme for control of Black-headed Cricket in Baluchistan.*

This scheme, which was sanctioned in August 1939 for a period of two years to run concurrently and in co-ordination with the scheme for investigation into the Black-headed Cricket in Sind, came into operation in June 1940. Its object is to find out measures which would be effective in controlling the pest in the early stages of the growth of the cotton plant when it is stated to cause a great deal of damage.

The report which was considered by the Agricultural Research Sub-Committee dealt with the control work carried out in Usta *tehsil* (Sibi District) of Baluchistan during the months of June and July.

The pest, which is reported to be of a nocturnal type with a migratory habit, can be controlled by means of barriers and baits placed in its way. As a result of the measures adopted, infestation was reduced to hardly 5% in the Usta *tehsil*.

The observations of the Sub-Committee on the progress report as amended and adopted by the full Committee are given below :—

"In the report, the remark is made 'Cotton is usually sown from the last week of April to the beginning of June and its germination begins after a fortnight or twenty days.' It was pointed out that the germination is quicker on account of the warmth. The success of the control work has been judged by the percentage of crops damaged in the *tehsil*. It was enquired whether any other criterion of success could be utilised and it was suggested that figures for the damage done in 1939 when no control measures had been carried out would be useful. It was observed that although the control was successful, there was a tendency for the area under cotton to go down; the Sub-Committee was of the opinion that along with the control, some effort should be made by the Agricultural Department to extend the area under cotton, because very good types of cotton could be grown in Baluchistan.

Subject to the above remarks, the Progress Report was approved."

SUBJECT 40(*a*).—*Proposed Co-ordinated Scheme for Research on Black-headed Cricket in Sind and Baluchistan.*

The above refers to a combined scheme for the co-ordination of work on Black-headed Cricket in Sind and Baluchistan spread over a period of three years from the 1st April, 1941. The work is proposed to be conducted on the following items :—

1. Life cycle and seasonal behaviour of the pest with special reference to the breeding places in both the provinces.
2. Suitable control measures, special attention being paid to the recent literature on anti-locust measures.
3. Control and prevention of the pest by means of poison baits.

The proposals were first examined by a Sectional Sub-Committee of the Agricultural Research Sub-Committee which reported as follows :—

> "The Sub-Committee considered that the additional staff was justified, particularly in view of the establishment of a field laboratory at Usta. It was considered that main attention should be given to item (2) of the programme, *viz.*, further work on the investigation of suitable control measures. In the details of contingent expenditure, the necessity for photographic camera and binoculars was queried and the apparatus grant was accordingly cut down by Rs. 300 in the first year, pending a reply regarding the necessity for these two.
>
> Regarding office expenses including purchase of a typewriter, it was recommended that enquiry should be made whether a used typewriter was available with the Indian Central Cotton Committee's Head Office. If it was, this expenditure should be reduced to Rs. 100. If not, the typewriter might be purchased. With regard to Service postage, the Sub-Committee recommended that this expenditure should be reduced to Rs. 50. The scheme was otherwise approved."

The full Agricultural Research Sub-Committee approved of the report of the Sectional Sub-Committee, but recommended that the budget proposals might be examined and amended by the Standing Finance Sub-Committee in the light of the revised proposals that might be received from the Provincial Government.

The above recommendations were accepted by the full Committee.

SUBJECT 40(*b*).—*Scheme for bollworm investigation and clean-up campaign in Sind—Proposal to introduce Micro-bracon Lefroyi to check spotted bollworm in Tharparkar District.*

The scheme for bollworm investigation and clean-up campaign in Sind was sanctioned by the Committee in January 1940 for a period of 3½ years and came into operation on the 1st September 1940. The work proposed to be carried out under the scheme during the first seven months is (*a*) to survey the host plants during the off-season of cotton and (*b*) to test the efficiency of the implements evolved elsewhere. During the remaining period it is proposed to carry out a clean-up campaign and to study its effect on the succeeding year's crop.

The Committee considered and approved of the proposal of the Director of Agriculture, Sind, to test the effect of the introduction in Tharparkar district of *Microbracon Lefroyi*, a larval parasite of spotted bollworm, as a means of controlling the pest.

SUBJECT 41.—*Model Projects for extension of improvements in cotton cultivation in Madras Province.*

Proposals for starting a model project scheme each in the Bellary and Coimbatore districts of the Madras Province for a period of 5 years were first considered by a Sectional Sub-Committee of the Agricultural Research Sub-Committee which reported as follows :—

> " It was questioned whether this scheme was sufficiently comprehensive. It did not attempt in any way to deal with the social improvement of the cultivator ; there was no mention of co-operative activities or of subsidiary industries. It was considered that these might be added. The price of the bund-farmers at Rs. 18 each was questioned. The Chairman understood that the price was Rs. 7 to Rs. 9. As mentioned in the 4th paragraph of Secretary's note, the rent for office and stores should be omitted. The manure programme appears to indicate the addition of manure from outside, *i.e.*, more than the cultivator could normally give. It was considered that a measure of this kind, which is not likely to fit into the existing economy of the place, should not be put into the scheme.
>
> Regarding the Coimbatore scheme, the Sub-Committee questioned as to why this scheme should be floated at all. In the first instance, it deals with less than the specified area which the full Committee had laid down at a minimum of 200 acres. The area is practically level and good rotations exist."

In view of the recommendations of the Sectional Sub-Committee, the full Agricultural Research Sub-Committee suggested that the scheme should be revised and re-submitted for the consideration of the Committee.

The recommendations of the Agricultural Research Sub-Committee were accepted by the full Committee.

SUBJECT 42.—*Observations of the Agricultural Research Sub-Committee on Progress Report for* 1939-40 *on Scheme for inclusion of Northerns and Westerns in Programme of Work of Dry Farming Scheme at Raichur—Remarks of Superintendent, Dry Farming Research Station, Raichur, on—.*

The Agricultural Research Sub-Committee which considered the remarks of the Superintendent, Dry Farming Research Scheme, Raichur, observed as follows :—

> "The Sub-Committee considered the reply received from the Superintendent, Dry Farming Station, Raichur, and the forwarding letter of the Director of Agriculture. In paragraph 2 of the Superintendent's reply, he has apparently concentrated on the question of dibbling. What the Committee had in mind, when it made its previous criticism, was really the matter of spacing of the rows. Regarding the second point (lay-out), the Sub-Committee considered that this type of experiment required further looking into and advice by the Statistician. It was considered that, on the whole, it would be better to use some other strains that are doing better rather than stick rigidly to putting in a Western merely because it was a Western."

The above observations were approved by the Committee, and an extension of the scheme for a further period of seven months from the 1st September, 1941, was sanctioned.

SUBJECT 43.—*Scheme for Cotton Jassid Investigation in Sind—Proposed extension of—.*

The future work is proposed to be carried out on the following lines :—

(1) Investigation of control measures including methods of artificially inducing Jassid attack under field conditions in known resistant varieties.

(2) Breeding of resistant varieties and searching for morphological characters contributing towards Jassid attack.

(3) Study of the incidence of Jassid attack and evaluation of loss caused by the pest to the growers.

The proposals were first examined by a Sectional Sub-Committee of the Agricultural Research Sub-Committee which reported as follows :—

"The Sub-Committee recommends the proposed extension of the scheme. It also recommends that the Jassid Research Assistant should start on Rs. 200 in the scale of Rs. 160-10-260. It is understood that a suitable man is in view. The Sub-Committee took note of, and agreed to, the Secretary's note paragraph 6 (*ii*) and 6 (*iii*), and considers that there is a case for the increased provision under travelling allowance and contingencies referred to in Secretary's note, paragraph 6(*v*)."

The full Agricultural Research Sub-Committee endorsed the recommendations of the Sectional Sub-Committee, which were accepted by the full Committee.

SUBJECT 44.—*Punjab Root Rot Scheme—Proposed extension of—.*

The proposals for the extension of the above scheme for a further period of one year from the 1st March, 1941, to test the methods of control suggested by the investigation, were considered and approved.

SUBJECT 45.—*Report of the Agricultural Research Sub-Committee.*

The Report of the Agricultural Research Sub-Committee, as amended, was adopted.

SUBJECT 46.—*Progress Report of the Director, Technological Laboratory, for the period 1st June to 30th November, 1940.*

The Technological Research Sub-Committee, which considered the Report of the Director, observed, *inter alia*, as follows :—

"*Rao Bahadur Ramanatha Ayyar* said that he had seen in a report issued by the Empire Cotton Growing Corporation that the Shirley Institute had evolved a technique for carrying out spinning tests on half-pound samples of cotton, and he thought that it would be helpful to the breeders if a similar technique could be adopted at the Committee's Technological Laboratory.

Dr. Nazir Ahmad said that some years ago tests on samples of certain cottons weighing 100 lbs., 10 lbs., 5 lbs. and 2 lbs. were conducted, but it was found that as the size of a sample diminished its spinning performance became higher, and therefore a sample of 10 lbs. was fixed as the minimum quantity for spinning test, as that would bear a reasonable relationship with the bulk tests in the mills.

It was decided that the Director, Technological Laboratory, might get in touch with the Shirley Institute with the object of ascertaining to what extent the technique in question could be adopted by the Technological Laboratory.

In regard to the test carried out on Avanashi (*Cambodia*) cotton grown in Sangli State, it was pointed out that the spinning performance of these cottons had been compared with commercial samples of *Kumpta* and *Jayawant*, and at the suggestion of Rao Bahadur Ramanatha Ayyar, it was agreed that a similar comparison should be made with standard *Cambodia* cotton sent from Coimbatore.

More details were asked for regarding commercial samples of *Jarila* cotton which were stated to have shown a better performance than the Farm samples. It was explained that these were not true commercial samples, but samples of cotton collected by the Department from the cultivators' fields. After some discussion, it was suggested that the locality from which the commercial samples had been obtained for the test should be ascertained and the causes of their superior qualities enquired into for the information of the Committee.

Some discussion arose as to whether the Laboratory should undertake tests on *Kapok*. It was, however, agreed that as *Kapok* did not come within the purview of the Committee, the Laboratory should not carry out any tests on it on its own initiative.

Some discussion took place on the desirability of the Technological Laboratory undertaking tests on artificial silk and *farinas*. In this connection, it was pointed out that the Technological Laboratory had been recognised as the official Testing House in India by the B. I. S. F. A. for artificial silk and that the charges made for such tests were 50% higher than those for similar tests on cotton. It was finally agreed that the decision in regard to the carrying out of the tests in question should be re-examined with reference to the overhead charges of the Laboratory and the other work which the Laboratory was expected to perform."

The recommendations of the Sub-Committee were accepted and the report was approved.

SUBJECT 47.—*Technological Laboratory Budget for 1941-42.*

The Budget of the Technological Laboratory for 1941-42 was approved.

SUBJECT 48.—*Report of the work done at the Conference of Technological Assistants.*

The proceedings of the Conference were recorded. It was, however, agreed that as there were several items relating to cotton agriculture discussed at the Conference, it is desirable that, in future, an Agronomist from Surat or any other station within easy reach of Bombay should be invited to be present.

SUBJECT 49.—*Pilot Plant for production of chemical cotton—Present position.*

The Secretary's note was recorded.

It was noted that an order had been placed with the Chemical Construction Corporation, New York, for a pilot plant for producing chemical cotton at a cost of 7,010 dollars.

The proposals of the Board of Scientific and Industrial Research to instal a plant for the estimation of α cellulose in raw materials other than cotton available in India, and to bear the entire cost of the machinery, staff, chemicals, etc., provided the plant is located at the Technological Laboratory, were considered and approved. The desirability of co-ordination in regard to the purchase of the required machinery by the Board was stressed, and it was agreed that, if it was indicated in what way the help of the Committee was needed, it should be given.

SUBJECT 50.—*Investigations to determine the suitability of cotton cloth for covering cotton bales—Present position.*

It was agreed that information regarding the present position in the U. S. A., in this connection, should be collected and placed before the Committee. It was further decided that the Technological Laboratory should carry out experiments on a few cloth covered bales as regards the absorption of moisture and action of rust.

SUBJECT 51.—*Mixing quality of cottons—Reference from Local Sub-Committee.*

It was agreed that for the conduct of this investigation all likely varieties of cotton suitable for particular areas for a particular count should be experimented with under proper conditions and with definite mixings. It was also decided that the lines on which the investigation should be conducted should be discussed at the next Conference of Spinners with the Research staff of the Technological Laboratory. It was further agreed that the experiments should include mixtures of *289F* and *Sind American* with *Africans* and *Californians* to find out to what extent the use of foreign cottons, the import of which at present was difficult, could be dispensed with or reduced.

SUBJECT 52.—*Scheme for investigations on the spinning, sizing and finishing properties of short staple cottons in the United Provinces.*

The discussion on this subject at the meeting of the Technological Research Sub-Committee is given below :—

Sir Sorabji Saklatvala said that he was not in favour of the proposals as he considered that the primary responsibility of the Committee was connected with the interests of the cotton grower. He agreed that the use by Indian mills of more cotton helped the growers but there was a limit to which such help to the industry could be given. It was for the mills to find out which cottons were more suitable for their special requirements and which particular processes were more profitable to adopt. Further, he was opposed to the scheme because it savoured of provincialism. In his opinion, there ought to be only one recognized testing house, but even should another be established, the Committee should not recognise it. If the United Provinces Government decided to have more than one testing house, the Committee could not prevent it, though it could refuse to recognise any testing house but its own ; it was also possible that if Bombay mills sent their goods to Cawnpore for test, the results might not agree with those given by the Committee's Testing House. The implications of the scheme had also to be carefully examined as it was quite possible that in course of time the Committee might be asked to give financial help towards the maintenance of the Institute itself. He expressed surprise that the United Provinces Government desired tests on short staple cotton to be conducted, since such tests were already being carried out by the Technological Laboratory. When the question of the expansion of the Technological Laboratory was under consideration some time ago, the suggestion that the Laboratory should undertake all kinds of tests was not agreed to as it was held that mills could do their own testing except in special cases when only they should be permitted to approach the Laboratory. The work of carrying out tests in sizing, finishing, etc., required by the United Provinces Government was not the function of the Technological Laboratory, but if the Provincial Government required any specific information on any point, this could be made available. The contention of the United Provinces Government that, because they contributed to the cess they had a claim on the Committee's funds, displayed a provincial spirit, which was not in keeping with the policy of the Committee whose funds were utilised not for the benefit of any particular Provincial Government but in the general interests of cotton growers. As regards the use of short staple cotton for the production of chemical cotton, steps were already being taken by the Committee. The disposal of the short staple cotton of the country was a problem which affected not only one province and was, therefore, a matter for the Central Cotton Committee to deal with.

Sir Shri Ram, while agreeing generally with Sir Sorabji Saklatvala, thought it was the duty of the Committee to carry out tests not only for agricultural departments but also for the consumers of Indian cotton, *viz.*, the Indian mills. He felt it would not be possible for the United Provinces or any other province to have so well equipped a Laboratory as the Committee possessed.

Mr. R. G. Saraiya held the view that work on the dyeing, bleaching and finishing properties of cotton should be undertaken by the Laboratory, as this would help the mill industry and indirectly aid in increasing the consumption of Indian cotton.

The Vice-President endorsing the observations of the previous speakers, thought that it might be desirable to point out to the United Provinces Government that embarking on a scheme of the nature proposed might appear at the start, to be fairly cheap, but in the long run, might prove to be otherwise. Even the Committee's Laboratory was not quite fully equipped, and it was doubtful if the machinery at Cawnpore was up-to-date. He was loath to see such institutes multiplied.

Mr. Parikh thought that the proposed work for developing new uses of cottons by means of chemical and other treatments and for the carrying out of tests on mixtures of cotton with other fibres, such as wool, jute and hemp, could very well be undertaken at the Committee's Technological Laboratory. He thought that this was a line of work which the Laboratory should take up as mills could not give a lead in this direction at present as they were busy owing to the War.

It was finally agreed that the proposals of the United Provinces Government could not be accepted but that the Director, Technological Laboratory, should examine them and put up a note showing to what extent work on the lines suggested had been done and what further research was required in the light of the proposals made and the discussions that had taken place. It was also decided that the powers of the Committee under the Act should be examined with a view to seeing how far the work which the Laboratory could undertake was in consonance with the provisions of the Act.

SUBJECT 53.—*Report of the Technological Research Sub-Committee.*

The Report of the Technological Research Sub-Committee, as amended, was adopted.

SUBJECT 54.—*Proposed publication of spinning test reports on Sind Sudhar cotton in a British Journal—Reference from last meeting of the Committee.*

This subject was first considered by the Wider Markets Sub-Committee whose recommendations are given below :—

> "The Sub-Committee concurred in the view of the Local Sub-Committee that no useful purpose would be served by publishing the note in question in a British Journal, during the present disturbed conditions of the world.
>
> The Director of Agriculture, Sind, said that it was proposed to replace the name of *4F-98* by a more appropriate name and that this would not do any harm, as *4F-98* was not known to the trade as such at present. Against this, however, it was argued that multiplying nomenclatures, except for good reasons, was not desirable. After some discussion, it was decided that in any case, the Committee should be consulted before any change in the nomenclature of commercial varieties is introduced."

The recommendations of the Wider Markets Sub-Committee were adopted.

SUBJECT 55.—*Review of the State of foreign trade in Indian cotton.*

The review of the state of foreign trade in Indian cotton for the month of October 1940 was recorded.

SUBJECT 56.—*Proposed establishment of an organisation for facilitating exports—Replies from commercial bodies.*

At the meeting of the Committee held in August 1940, during discussion on the Report of the Local Sub-Committee, the view was expressed that as, owing to the war, several European markets had been closed to Indian cotton to the extent of nearly 700,000 bales, the question of finding more markets for Indian piecegoods should be considered by the Committee, as this would ensure a permanent increase in the use of Indian cotton by mills in India. The time was opportune, it was felt for the establishment of a good export market for Indian piecegoods,

as several enquiries were being received from Australia, Malay, Africa and other places for different kinds of piecegoods. After much discussion, it was finally agreed that an export organisation should be set up by the commercial interests of the country, the functions of which, *inter alia*, should be to undertake propaganda to increase the consumption of Indian cloth in India, to explore the possibilities of increasing the export of piecegoods to such countries as Ceylon, Malay, Australia, *etc.*, and to take such steps as might be found feasible to facilitate exports from India. It was accordingly decided that the millowners' associations and chambers of commerce should be consulted as to how far they were prepared to assist in the establishment and maintenance of such an organisation. The replies from the commercial bodies were first examined by the Wider Markets Sub-Committee whose recommendations were subsequently considered by the Committee and after a lengthy discussion the following resolution was adopted :—

RESOLUTION.—" The Indian Central Cotton Committee views with increased concern the low prices of Indian cotton, especially short staple cotton, mainly as a result of the loss of foreign markets in Europe and unsettled conditions in the Far East, and feels that the economic condition of the Indian cotton grower is in large part precarious and there are strong reasons for believing that it will further deteriorate unless prompt steps are taken to deal with the situation. The Committee accordingly recommends that the Government of India should take such steps, in the interests of the cotton grower, as may be necessary to relieve the situation. The Committee, in this connection, desires to make the following recommendations :—

(1) The Government of India, in co-operation with manufacturing and trading interests, should take effective measures to expand the consumption of cotton goods, and cotton and woollen mixtures in this country and their export overseas. These should include *inter alia*

(a) directions to the Department of Supply and the Indian Stores Department that, except in such cases where it is absolutely essential to ask for cloth requiring the use of long staple imported cotton, specifications for their requirements should be so framed or altered as to encourage the use of Indian cotton ;

(b) representations to all Colonial and Empire Governments to ensure that India's cotton goods are admitted to those countries on the same terms and conditions as are accorded to British cotton goods ;

(c) the adoption of suitable measures for restricting the import of cotton goods and artificial silk yarn and piecegoods into this country ;

(d) the establishment by Government of a central export organization with suitable arrangements for the inspection of goods before export and the deputation of a trade delegation to other countries for the purpose of carrying out propaganda and exploring the possibilities of introducing Indian cotton manufactures.

(2) **Subject to the exigencies of war demands on shipping, more adequate facilities should be provided for the export of Indian cotton, special preference being given to short staple cotton.**

(3) **Foreign cotton should not be purchased by Government for sale in India.**

(4) **Financial assistance should be afforded to mills and the trade by Government for the warehousing or stocking of more than their normal holdings of short staple cotton.**

Should Government so desire it, the Committee will be prepared to appoint a small Sub-Committee to discuss with the representatives of the Government of India any points that may arise in connection with the measures suggested in this resolution."

In the course of discussion suggestions were also made that a minimum price for cotton should be fixed and that Government should purchase large quantities of cotton for release at a suitable time later, but these did not find favour.

The question of the curtailment of acreage under cotton was also raised and it was agreed that, although two years ago the Committee had accepted the view that except on marginal lands curtailment of acreage was not a feasible proposition owing to the difficulty of finding a suitable alternative cash crop to the cultivators, the subject should be re-considered in the light of the present conditions.

SUBJECT 57.—*Report of Wider Markets Sub-Committee.*

The Report of the Wider Markets Sub-Committee, as amended, was adopted.

SUBJECT 58.—*Proposed amendment of Section 3A of Cotton Ginning and Pressing Factories Act, 1925, in its application to Central Provinces and Berar—Reference from last meeting of the Committee.*

The Director of Industries, Central Provinces and Berar, reported certain cases of watering of cotton which had taken place in ginning factories and suggested the amendment of the Cotton Ginning and Pressing Factories Act to provide against such abuses. The matter was considered by the Local Sub-Committee which recommended that the Central Provinces Government should be requested to amend Section 3A (2) of the Act on the lines of Section 3A and 3AA of the Bombay Amendment Acts 1936 and 1938. This recommendation was considered by the Cotton Ginning and Pressing Factories Sub-Committee which decided that the papers on the subject should be forwarded to the Board of the East India Cotton Association for opinion. The recommendation of the Sub-Committee was accepted by the Indian Central Cotton Committee.

SUBJECT 59.—*Proposed amendment of Section 9(1) of Cotton Ginning and Pressing Factories Act, 1925—Reference from last meeting of the Committee.*

The Director of Industries, Central Provinces and Berar, reported that in order to evade the provisions of the Cotton Ginning and Pressing Factories Act in regard to structural requirements, some factories had been erected with not more than 4 roller gins, such factories being exempted from the operation of the Act. In view of the exemption,

offences against the Act were being committed and the Director of Industries accordingly recommended that the proviso in question should be deleted. The Cotton Ginning and Pressing Factories Sub-Committee which considered the recommendations reported as under :—

> *Dr. Chellaram Shewaram* said that in his opinion the object of the proviso to sub-section (1) of section 9 was to encourage a man with small capital to invest in the ginning industry and that the deletion of the proviso would mean an indirect monopoly by interests with big capital. The general feeling of the Sub-Committee, however, was that the exemption granted under the proviso was likely to be abused as was reported to be the case in the Central Provinces and Berar. The Sub-Committee accordingly endorsed the following recommendation of the Local Sub-Committee :—
>
> > "The Sub-Committee accepted the suggestion of the Director of Industries, Central Provinces, regarding the deletion of the proviso to section 9 (1) of the Cotton Ginning and Pressing Factories Act, 1925, and decided that the proviso to section 9 (1A) should also be deleted."

The report of Cotton Ginning and Pressing Factories Sub-Committee was adopted by the full Committee, Dr. Chellaram Shewaram dissenting.

SUBJECT 60.—*Admissibility of evidence in cases of infringement of Section 4 of Cotton Ginning and Pressing Factories, Act, 1925—Letter from Government of India.*

At the suggestion of the East India Cotton Association, the Government of India were requested to reconsider the question of amending the Cotton Ginning and Pressing Factories Act, 1925, so as to make it legal for a duly certified arbitration award of a regularly constituted cotton trading association to be used in Court as evidence in prosecutions under Section 4 of the Act, without the necessity for the appearance of the arbitrators who made the award. The reply from the Government of India intimating that the proposal was not practicable was considered by the Cotton Ginning and Pressing Factories Sub-Committee, which reported as under :—

> "The Sub-Committee decided that the East India Cotton Association should continue to depute a reliable witness, other than the arbitrators, to be present at the time when arbitrators were examining the bales under dispute, so that the particular witness could be made available for the purpose of giving evidence in a Court of Law, if the defence called for the evidence of witnesses who had actually seen the bales.
>
> The letter from the Government of India was recorded."

The recommendations of the Sub-Committee were approved by the full Committee.

SUBJECT 61.—*Cotton Ginning and Pressing Factories (Madras Amendment) Bill.*

The Cotton Ginning and Pressing Factories Sub-Committee considered the draft of a Bill to amend the Cotton Ginning and Pressing Factories Act, 1925 and made the following observations, which were approved by the full Committee :—

> "The Sub-Committee agreed to the suggestion contained in Enclosure II to the Secretary's note for the deletion of clause 4 " 3(A) 3 " of the Madras Amendment Bill and the addition of a new section on the lines of section 3AA of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1938. It was, however, agreed that in adopting section 3AA the fine of Rs. 5,000 should be reduced to Rs. 1,500."

SUBJECT 62.—*Foreign matter in Indian cotton bales—Report of complaints received and action taken.*

The Secretary's note indicating the action taken in respect of complaints received regarding the presence of foreign matter in Indian cotton bales was recorded.

SUBJECT 63.—*Adoption of measures to check presence of foreign matter in Indian cotton bales—Reference from last meeting of the Committee.*

At the instance of the Local Sub-Committee, the Committee in January 1940 recommended that if in any particular season, the number of complaints in respect of foreign matter received against a particular pressing factory should exceed 10, the Provincial Government or the Durbar concerned should consider the question of stopping the press from working for one season.

The above recommendation was reconsidered by the Cotton Ginning and Pressing Factories Sub-Committee in the light of the replies received from the Provincial Governments and States. It was noted that at present under the Cotton Ginning and Pressing Factories Act, 1925, in force in British India, action to deal with the presence of foreign matter in Indian cotton bales could only be taken in the Province of Bombay and the Central Provinces and Berar, where the Act in question has been amended to provide, *inter alia*, for the licensing of ginning and pressing factories and for penalising the presence in cotton bales of cotton seed (in excess of a prescribed percentage), cotton waste and foreign matter; even in these two Provinces, however, a licence can only be suspended, withdrawn or cancelled if the owner or person in charge of the cotton ginning or cotton pressing factory has been convicted of an offence punishable under any section of the Act in Bombay Province and under Section 3A of the Act in the Central Provinces and not on the basis of the number of complaints received. After some discussion it was decided that, in the circumstances, other Provinces should be requested to amend the Cotton Ginning and Pressing Factories Act, 1925, on the same lines as Bombay and the Central Provinces, in order to provide for licensing of ginning and pressing factories and for penalising the presence in cotton bales of cotton seed (in excess of a prescribed percentage), cotton waste and foreign matter and that the circular letter issued to the Provincial Governments and States by the Committee should be amended accordingly.

The Committee approved of the above recommendations.

SUBJECT 64.—*Watering of cotton in Mewar State—Complaint from Messrs. Volkart Brothers, Bombay.*

It was noted that the Mewar State had warned the individuals concerned against a repetition of the malpractice in question and that the State would undertake legislation if the warning did not mend matters.

SUBJECT 65.—*Egyptian Government Regulations concerning mixing of cotton.*

The Secretary's note was recorded.

SUBJECT 66.—*Report of the Cotton Ginning and Pressing Factories Sub-Committee.*

The Report of the Cotton Ginning and Pressing Factories Sub-Committee was adopted.

SUBJECT 67.—*Application of a correction factor to the anna valuation figures reported for Sind cotton forecasts—Reference from January 1940 meeting.*

The Cotton Forecast Sub-Committee reported on this subject as under :—

> " In view of the position as explained in the Secretary's note*, the Sub-Committee was not in favour of recommending the application of a fixed correction factor to the anna valuation figures reported for the Sind Cotton Forecasts. It was suggested, however, that the question of incorporating in the April Forecast Reports, a sentence to the effect that the commercial crop (the best estimate based on trade statistics) amounted to..... bales on the average of the previous ten (or five) years against..... bales officially estimated, might be examined."

The report of the Sub-Committee was adopted.

SUBJECT 68.—*Exclusion from the " Raw Cotton Trade Statistics " of figures relating to negligible traffic on certain railways—Reference from Director-General of Commercial Intelligence and Statistics.*

The Committee agreed to the proposal of the Director-General of Commercial Intelligence and Statistics to discontinue the collection of the raw cotton trade statistics in respect of the Dibru-Sadiya, the Darjeeling-Himalayan and the Junagadh State Railways, as the quantity involved was negligible compared with the total annual traffic in raw cotton registered by all railways in India.

SUBJECT 69.—*Submission of returns of cotton ginned by ginning factories—Reference from January 1940 meeting.*

The Committee noted with satisfaction that most of the Provinces and States addressed have agreed to take steps to amend the existing Cotton Ginning and Pressing Factories Act or other similar legislation in force, to provide for the submission of monthly returns of cotton ginned by ginning factories. The Committee hoped that the few Provinces and States which had not yet accepted its recommendation would also fall in line, as the statistics in question would, *inter alia*, be of considerable help in arriving at a better estimate of the cotton production in India.

SUBJECT 70.—*Publication as Departmental Bulletin of the Report on forecasting of cotton crop in the Punjab—Reply from Punjab Government.*

The reply of the Punjab Government regretting their inability to publish the " Report on Forecasting of cotton crop in the Punjab," embodying the results of analysis of the data available with the Punjab Agricultural Department for purposes of fixing revised standard yield figures for the Province, for the quinquennium ending 1936-37, was recorded.

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* Not printed.

SUBJECT 71.—*Arrivals of Berar cotton by road into Bombay—Reference from Director of Land Records, Central Provinces and Berar.*

The Cotton Forecast Sub-Committee reported on this subject as follows :—

"*The Director of Land Records, Central Provinces and Berar,* stressed the desirability of addressing the East India Cotton Association again to obtain from their members figures showing separately cotton which left Berar by rail and was subsequently carried by road to Bombay. He understood that large quantities of cotton were railed from Berar to Jalgaon and then conveyed by road to Bombay. In view of the difficulty pointed out by the Association in their letter* No. 212/CH/37, dated the 12th November 1940, the Sub-Committee suggested that the circumstances under which such traffic took place and the extent thereof might be investigated in consultation with the railway authorities concerned and the Bombay Government."

The report of the Sub-Committee was adopted and it was further suggested that the Director of Land Records, Central Provinces and Berar, while in Bombay, might take the opportunity of discussing the matter with the East India Cotton Association.

SUBJECT 72.—*Improvement of cotton forecasts—Reference from January 1940 meeting.*

SUBJECT 73.—*Post mortem examination of all-India Cotton Forecasts of 1939-40 season.*

The report of the Cotton Forecast Sub-Committee on the above two subjects is given below :—

SUBJECT 72.

"*The Director of Agriculture, Bombay,* enquired whether in the light of the position as explained in the Supplementary note*, the Sub-Committee would like him to continue the procedure of applying the correction factor of 50% to the anna valuation figures reported for Gujerat (British districts). He was personally not in favour of it as the outturn figures as corrected were likely to be misleading compared with those of the previous years. While agreeing with this view, which was supported by the Director General of Commercial Intelligence and Statistics, the Sub-Committee made the general recommendation that the forecasting authorities should, in preparing the outturn figures for the Forecast Reports (particularly for the April forecast), apply their own correction factor to arrive at what might appear to them to be the most probable estimate in the light of the data available with them at the time."

SUBJECT 73.

"*The Director of Land Records, Central Provinces and Berar,* expressed the opinion that the actual crop figures arrived at from Formula I, were likely to be subject to a wide margin of error, arising from unknown factors, and suggested that examination by this method might be discontinued. He thought that the estimates from Formula II, might, wherever possible, be supplemented by those deduced from the figures of cotton ginned. After some discussion, the Sub-Committee recommended that the Director-General of Commercial Intelligence and Statistics should be requested to examine the points raised and to send a note embodying practical suggestions for overcoming the difficulties for the consideration of the Sub-Committee at its next meeting.

At the suggestion of the Director of Land Records, Central Provinces and Berar, it was agreed that the Report on the accuracy of the cotton forecasts of the Province issued by him annually might be referred to the Committee before publication of the report of the Committee."

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* Not printed.

A general discussion took place on the method of crop forecasting at present in vogue in India and the possibility of effecting improvement to achieve greater accuracy. The view was expressed that of the three factors taken into account in estimating the crop, namely, (1) area, (2) standard yield, and (3) anna valuation, the first was almost correct. In regard to the standard normal yield, it was thought that the only way of putting it on a sound scientific basis was by having more crop-cutting experiments. The third factor, *viz.*, anna valuation, it was agreed, was usually underestimated. It was accordingly suggested that Directors of Agriculture could examine the anna valuation during the last ten or twenty years, and if it was found that the most recurring anna valuation reported was, say, 8 annas, when the normal crop was supposed to be 12 annas, an appropriate correction factor could be applied. Stress was laid on the need for having an independent agency for estimating yields such as was in vogue in the U. S. A. for cotton and in Canada for wheat. In this connection it was pointed out that the system of employing outside agencies for estimating the crop had worked well in the case of jute and might with advantage be tried for cotton.

The recommendations of the Cotton Forecast Sub-Committee were adopted.

SUBJECT 74.—*Stocks of Indian cotton held by the trade in Central Provinces and Berar—Collection and compilation of statistics —Reference from Director of Land Records, Central Provinces and Berar.*

The Committee expressed the opinion that the statistics of stocks held by the trade in the Central Provinces and Berar on the 31st August 1940, collected by departmental agency, were more complete and justified the extra trouble taken by the Department of Commerce and Industry in the matter. It was accordingly recommended that the Provincial Government should be requested to continue the arrangement on a permanent basis.

SUBJECT 75.—*Report of the Cotton Forecast Sub-Committee.*

The Report of the Cotton Forecast Sub-Committee was adopted.

The meeting concluded with a vote of thanks to the President.

D. N. MAHTA.

APPENDIX I.

SUBJECT 5.—*Report of Standing Finance Sub-Committee :—*

Three meetings of the Sub-Committee were held since the meeting of the Committee in August 1940.

2. The Sub-Committee examined the financial aspect of the new schemes and extensions of old schemes provisionally sanctioned by the Committee at its meeting held in August 1940 before their submission to the Government of India for sanction. The decisions of the Sub-Committee are given below :—

A. NEW RESEARCH SCHEMES.

(1) *Scheme for the improvement of cottons of the Oomras tract of the Hyderabad State.*

The Sub-Committee approved of the scheme as provisionally sanctioned by the Committee, the net cost to be borne by the Committee being Rs. 50,412 spread over a period of five years.

(2) *Model projects for extension of improvements in cultivation of crops in the United Provinces.*

The Sub-Committee approved of the scheme as provisionally sanctioned by the Committee. Of the total expenditure amounting to Rs. 15,130, the net cost to the Committee is Rs. 3,783 (rounded) spread over a period of five years.

(3) *Model projects for extension of improvements in cultivation of crops in the Central Provinces and Berar.*

The Sub-Committee approved of the scheme as provisionally sanctioned by the Committee at a total cost of Rs. 9,193, the share of the Committee being Rs. 2,298 spread over a period of three years.

(4) *Model projects for extension of improvements in cultivation of crops in Surat District—Reference from the Government of Bombay.*

In view of the recommendation of the Committee that this scheme should run for five instead of three years, the Sub-Committee approved of an additional expenditure of Rs. 1,423 to be borne by the Committee on the basis of the accepted principle of distribution of the cost of such schemes.

B. Extensions of Research Schemes.

Bikaner Bengals Cotton Improvement Scheme.

The Sub-Committee approved of the extension of the above scheme for five years from the 1st January 1941 as provisionally sanctioned by the Committee. An additional provision of Rs. 1,225 to meet the leave-salary of the staff and Provident Fund of the Laboratory Assistant, was also sanctioned, thus raising the cost of the scheme to Rs. 31,542, the Committee's share being Rs. 15,771 on a 50:50 basis.

C. Extensions of Seed Distribution Schemes.

(1) *Revised Jayawant and Gadag No. 1 Scheme.*

The extension of the above scheme for a period of one year, as provisionally sanctioned by the Committee, was approved, the share of the expenditure to be borne by the Committee being Rs. 10,084, *i.e.*, 15 per cent of the total cost of the scheme.

(2) *Sind Seed Distribution and Extension Scheme.*

The Sub-Committee agreed to the extension of the above scheme for a further period of five years from the 1st April 1941, as provisionally sanctioned by the Committee, the net cost to the Committee being Rs. 42,471 *i.e.*, 15 per cent of the total cost of the scheme, and that to the Provincial Government Rs. 2,40,667.

D. Technological.

Desirability of appointing an Assistant Director at the Technological Laboratory—Reference from last meeting.

The proposal to grant a duty allowance of Rs. 75 per mensem to Mr. D. L. Sen for holding charge of the Testing House Section of the Technological Laboratory, in addition to his own duties, was sanctioned by the Sub-Committee, subject to approval of the Government of India which has since been received.

E. Cotton Forecasts.

The Sub-Committee approved of the proposed co-ordinated scheme for crop cutting experiments on cotton in terms of the recommendation of the full Committee at a cost not exceeding Rs. 20,000 for the first year.

F. Miscellaneous.

(1) *Proposed appointment of a temporary Assistant to help Dr. V. G. Panse, Statistician, Cotton Genetics Research Scheme, Indore, in the work of collection and examination of data on manurial experiments on cotton in India and designing of model lay-outs.*

The appointment of a temporary Assistant on Rs. 60 per mensem for a period of one year in the scale of Rs. 60-5-80 was sanctioned.

(2) *Proposal for extension of scholarships of Messrs. Chamanlal Mohan and Srinivas Rao Kaiwar.*

The Sub-Committee sanctioned an additional sum of Rs. 1,200 for the extension of the scholarships of Messrs. Chamanlal Mohan and Srinivas Rao Kaiwar to the end of March 1941.

(3) *Hyderabad Botanical Scheme.*

The Sub-Committee approved of the proposal for carrying out wilt-resistance work at Poona in connection with the scheme, as provisionally sanctioned by the Committee, at a total additional cost of Rs. 3,310 the share of the Committee on a 50:50 basis being Rs. 1,655.

(4) *Scheme for improvement of Kumpta Cotton in Hyderabad State.*

The Sub-Committee approved of the proposal for wilt-resistance work in connection with the scheme as provisionally sanctioned by the Committee, the extra cost amounting to Rs. 2,529 spread over a period of two years being met from savings in the sanctioned grant for the scheme.

3. In accordance with the decision of the full Committee, the Sub-Committee considered and approved of the proposals received from the Government of Bombay for a scheme for the grading and marking of *1027 A. L. F.* cotton in the Surat area for a six months' season during 1940-41 at an estimated expenditure of Rs. 5,100, subject to the condition that half the cost, namely Rs. 2,550, would be met by the Government of Bombay. The Sub-Committee at its subsequent meeting considered revised proposals for a scheme covering a period of three years at an estimated cost of Rs. 25,300 to be borne on a 50:50 basis between the Bombay Government and the Committee and decided that the Provincial Government should be informed that the Sub-Committee was not prepared to share the cost of the scheme for more than one year the period already agreed to.

4. In connection with the amendment of Rule 9(4) of the Indian Cotton Cess Rules, it was reported to the Standing Finance Sub-Committee at its meeting held in April 1940 that all appointments under the Committee would require to be treated as temporary for a period of 5 years. It was pointed out at the same time that this would affect the status of some members of the staff of this office and of the Technological Laboratory, who, owing to omission in the past to renew the appointments under the Committee every 3 years, as required by Cotton Cess Rules, had been led to regard themselves as permanent servants of the Committee. The Sub-Committee decided that the position should be regularised and the sanction of the Government of India applied for all the non-pensionable appointments made up to the 31st March 1940 to be treated as permanent. Action was taken accordingly and the Government of India have sanctioned the retention on a permanent basis of such members of the non-pensionable staff as have put in a continuous service of 3 years or more on the 30th July 1940, the cases of future entrants to these posts and of those who have put in less than 3 years' service to be governed by the relevant provisions of the Indian Cotton Cess Rules. They have, however, intimated that if it is desired to treat any of them as permanent, their cases should be examined individually and submitted to the Government of India with full justification for the proposal. The orders of the Government of India were noted with satisfaction by the Sub-Committee.

5. At its meeting held in March 1939, the Committee sanctioned the scheme for production of long staple cottons in Sind for a period of five years. Provision was made in the scheme for the post of a Cotton Botanist in the scale of Rs. 300-20-420-E.B. -30-660-E.B. -40-900, which is the scale of Class I posts in the Provincial Agricultural Service. The post was advertised and, under Rule 9(1) (a) of the Indian Cotton Cess Rules, Dr. R. Sankaran, Assistant to the Cotton Specialist, Coimbatore (pay Rs. 120), was selected for the appointment by the Selection Sub-Committee. The latter recommended that Dr. Sankaran should be given a starting pay of Rs. 400 per mensem in the sanctioned scale. The recommendation of the Sub-Committee was approved by the full Committee at its meeting in January 1940. Subsequently, the Sub-Committee considered a letter from the Government of India in which they expressed their inability to grant Dr. Sankaran a starting pay of Rs. 400, and decided that the President should be requested to approach the Government of India for a re-consideration of their decision. The President was addressed in the matter and his reply regretting that the Government of India were unable to accept the recommendation of the Committee was recorded.

6. At the meeting of the Committee held in March 1937, in the course of discussion on the draft rules under the Cotton Ginning and Pressing Factories (Bombay and Central Provinces Amendment) Acts, it was decided that as the Governments of Bombay and the Central Provinces had amended the Act at the Committee's suggestion, they should be provided with the necessary conditioning apparatus for carrying out moisture tests on cotton. A sum of Rs. 3,300 was accordingly sanctioned for the purchase of two conditioning ovens. The Government of the Central Provinces was provided with an oven in 1937 at a total cost of Rs. 1,892-6, but no expenditure on this account has yet been incurred in the Bombay Province. In this connection, the Sub-Committee recorded a letter from the Director of Agriculture, Bombay, intimating that the Provincial Government had accepted his suggestion that, in view of the additional cost of equipment due to the war, the purchase of the conditioning oven should be postponed and arrangements made to carry out tests for the determination of moisture content through the Agricultural Chemist to the Government of Bombay.

7. Mr. B. M. Dabral, who was in charge of the Sind Physiological Scheme from the 10th July 1927 to the 21st October 1937, the date on which it closed down, was appointed to the post of Senior Botanical Assistant in the United Provinces Botanical Scheme on Rs. 150 per mensem (in the scale of Rs. 150-10-220) on the 21st November 1938. He subsequently submitted an application through the Director of Agriculture, United Provinces, requesting that (1) the break in his service may be condoned, (2) he may be permitted to draw the maximum pay of his present post, *viz.*, Rs. 220 per mensem, either from the date of his appointment or, at least, on the completion of one year's service under the scheme and (3) he may be allowed to contribute to the Committee's Provident Fund. The application was considered by the Sub-Committee and it agreed to condone the break of one year and one month in Mr. Dabral's service to enable him to get the benefit of the Committee's contributory Provident Fund. Mr. Dabral's request for the grant of the maximum pay of the post held by him was, however, not sanctioned.

8 Mr. Srinagabhushana, Junior Research Assistant, Technological Laboratory (pay Rs. 275 per mensem) applied through the Director for the post of Assistant Professor in Textile Testing at the S.K.S. Jubilee Technological Institute, Bangalore. He was selected for the appointment and was relieved of his duties on the 31st August 1940, on which date he had 8 months and 1 day's leave on average pay at his credit. The Sub-Committee considered a request from him for the grant of the leave due to him and for the retention of a lien on his appointment under the Committee till his confirmation in the new post. Mr. Srinagabhushana was allowed to retain a lien on his appointment under the Committee for a period of one year from the date of his relief from the Technological Laboratory but his request for leave-salary was not accorded to, as the Sub-Committee was opposed to the principle of a servant of the Committee drawing pay in two posts at the same time.

9. The Sub-Committee considered and approved of the arrangements contained in the following letter from the Secretary, Indian Central Cotton Committee, to the Chief Controller of Stores for the utilisation of facilities available at the Technological Laboratory for the testing of textile samples :—

> "I have the honour to invite reference to the correspondence resting with D. O. letter No. I-1316, dated the 14th August 1940, from the Director of Inspection, to the Director, Technological Laboratory, Matunga, and to say that my Standing Finance Sub-Committee is pleased to place at the disposal of the Indian Stores Department the facilities available at the Committee's Technological Laboratory at Matunga for testing of development samples, textile samples submitted by the mills of Bombay Province against invitations to tender issued by your Department and the textile samples drawn by the Indian Stores Department Inspectorate from supplies put up for inspection against contracts, and has approved of the following arrangements :—
>
> (*a*) *Development samples.*—The mills to be at liberty to send these samples direct to the Laboratory for which charges will be made according to the scheduled rates. If, however, these samples are received through the Indian Stores Department after approval by them, no charge will be made to the mills, but the cost of the work will be debited to the Indian Stores Department.

(b) *Samples against invitations to tender issued by the I. S. D.*—All the samples from mills in the Bombay Province to be tested at the Technological Laboratory, the report issued by the latter being accepted by the Indian Stores Department and the Chief Inspector of Stores and Clothing, Cawnpore, as authoritative.

(c) *Samples from supplies put up for inspection against contracts.*—While the Technological Laboratory would make every effort to test as many of these samples as possible in order that uniformity may be maintained in the conditions of testing between the samples with tenders and the contract supply samples, it might not be possible in the beginning, in view of the other work of the Laboratory, to undertake tests on all such samples. The overflow, therefore, would have to be tested by arrangement with the Controller of Inspection, Bombay, either at his Laboratory or sent to Cawnpore or Alipore.

As regards the charges for the above tests, my Sub-Committee has decided that for the duration of the war, these tests should be carried out on the understanding that the extra expenditure on account of additional staff, contingencies and additional equipment would be borne by the Indian Stores Department, no charge being made for the existing facilities of supervision, building and machinery available at the Technological Laboratory. The Sub-Committee notes that to aid in this work the services of some of the Technical Assistants experienced in this class of work would be transferred to the Technological Laboratory without cost to the Committee. The number of additional testers that may still be required would be determined by the volume of the work, but it is understood that the salary, etc., of such staff as it may be necessary to employ would be borne by the Indian Stores Department.

I am to add that the question of supplementing the existing equipment of the Technological Laboratory by the transfer of certain equipment from the Laboratory of the Bombay Inspection Circle, Indian Stores Department, and the Ordnance Depôt, Bombay, will be considered by the Sub-Committee, if experience shows that the present equipment is insufficient to cope with the increase in the work.

I am to request that confirmation of the above arrangements may kindly be communicated to me at an early date."

The letter from the Government of India, Department of Supply, approving on the arrangements outlined above was considered and recorded by the Sub-Committee.

10. The Sub-Committee approved of the grant to Dr. Nazir Ahmad of leave on average pay on Medical Certificate from the 25th July to the 24th August 1940 with permission to suffix the 25th and 26th August, public holidays.

11. The Sub-Committee renewed the arrangements with the Imperial Bank of India to obtain an overdraft on current account for a further prriod of six months from 1st January 1941 to the extent of a lakh of rupees, when required, against security of Government Paper lodged with the bank.

12. At its last meeting, the Indian Central Cotton Committee considered the report of the Sub-Committee in which reference was made to the reply from the Government of India expressing their regret that they had not been able to see their way to restore the broadcasting of cotton prices at 1 p.m. During discussion, the view was expressed that, in places where there were no telegraph offices, the early broadcast of prices would be of immense benefit to the cotton grower, and it was decided that the Government of India should again be addressed in the matter. This was accordingly done, and the following letter received in reply was considered by the Sub-Committee at its meeting held on the 22nd November 1940 :—

"*Copy of letter No. K402, dated the 7th November 1940, from the Under Secretary to the Government of India, Department of Communications, New Delhi, to the Secretary, Indian Central Cotton Committee, Bombay.*

I am directed to refer to your letter No. 638 of 1940, dated the 4th October 1940, and to say that while it may be true that the early broadcast of prices will be of benefit to the cotton grower in places where there are no telegraph offices, the reception of such a broadcast cannot be confined only to places which have no telegraph offices. The Government of India do not, in the circumstances, consider that any change is called for in the decision communicated in their letter No. K402, dated the 4th July 1940."

The Sub-Committee noted with regret that the Government of India had not been able to see their way to accept the recommendation of the Committee.

13. The Sub-Committee sanctioned an extension of the scheme for investigating the possibilities of control of Cotton Stem Weevil of South India, for a period of three months from the 30th October 1940, at an additional cost to the Committee of Rs. 760.

14. Dr. R. S. Vasudeva, Assistant Cotton Mycologist in the Punjab Root Rot Scheme, having accepted the post of Assistant Plant Pathologist at the Imperial Agricultural Research Institute, New Delhi, the Sub-Committee on the recommendation of the Director of Agriculture, Punjab, accorded sanction to (1) Dr. Vasudeva being relieved immediately, (2) his travelling expenses on account of his monthly visits to Lyallpur being paid from the grant for the Punjab Root Rot Scheme, and (3) the employment of a steno-typist for a period of about three months on Rs. 50 per mensem for the writing-up of the final report of the work done during the whole period of eight years during which the problem of root rot has been under investigation, as well as the progress report of the scheme for the current year. The Sub-Committee noted that the Professor of Botany at Lyallpur, under whose supervision Dr. Vasudeva has been working, would continue to supervise the work of the scheme during the current year.

15. The Sub-Committee sanctioned, as a special case, the excess expenditure of Rs. 1,145-13-0 objected to by the Auditors in connection with the travelling allowance of Mr. M. A. A. Ansari, who was deputed to collect samples of Herbaceum cottons in Iran.

16. The Sub-Committee approved of the following tests being carried out at the Testing House of the Technological Laboratory at the rates of fees shown against each :—

(1) *Type of cotton.*—For determining the type of cotton used for yarn and cloth, Rs. 10 to Rs. 25 per sample according to the amount of work involved.

(2) *Neps per yard.*—Rs. 2-8 per sample.

(3) *Weight of cloth per square yard under ordinary conditions :—*

(*a*) For determining the weight of cloth per square yard either under the conditions of temperature and humidity prevailing in the room or under certain specified conditions, Re. 1-8 per sample.

(*b*) For determining the weight of cloth per square yard with a known moisture regain, Rs. 4 per sample.

(4) *Spinning of kapas for tests.*—When samples of *kapas*, instead of lint, are received for spinning or fibre tests, a fee of Rs. 5 or Rs. 2-8, according as the samples are received for spinning test or fibre test, should be charged.

(5) *Co-efficient of variation of counts, strength or twist.*—For calculation of variation of counts, strength or twist of samples of yarn, Re. 1.

17. The Sub-Committee approved of the appointment of Dr. L. Thoria of the Technological Laboratory as a member of the Cellulose Research Committee of the Board of Scientific and Industrial Research.

18. A Balance Sheet of the audited accounts of the Committee's funds and the Provident Fund as at 30th September 1940 is attached* for information.

Rs. 10,92,893 of the Committee's funds are invested in Government Paper and Rs. 5,01,078 in long dated Corporation Bonds.

19. The Budget Estimates for 1941-42, as approved by the Sub-Committee, are attached.* The receipts from the cotton cess are estimated at Rs. 6,00,000 against the revised figure of Rs. 5,50,000 in 1940-41. Interest has been reduced from Rs. 64,000 to Rs. 57,000 as some of the securities will have to be sold to meet current expenditure. The Budget will need revision when final decisions are arrived at on some of the proposals under consideration at this meeting of the Committee.

20. Revised Estimates of Receipts and Expenditure for the current financial year are attached.* No change has been made in the figures for cotton cess receipts

* Not Printed.

and interest as estimated in August last. Miscellaneous receipts have been raised from Rs. 5,000 to Rs. 11,000. Owing to loss on redemption of 5 per cent 1940-43 Loan, it is estimated that there will be a drop of Rs. 33,925 in the total receipts. The total expenditure for the current year is estimated at Rs. 10,44,515 against the sanctioned budget of Rs. 10,82,439. The closing balance at the end of the year will stand at Rs. 14,63,047 compared with Rs. 19,16,487 at the end of the last financial year.

21. The Sub-Committee recommended that Messrs. S. B. Billimoria & Co. should be re-appointed as the Committee's Auditors for the year 1941-42 and that a fee of Rs. 750 should be paid to them for this work.

22. Subject to the approval of the Government of India, the Sub-Committee sanctioned the appointment of Dr. Sawan Mall Sikka as Assistant Cotton Research Botanist in the Punjab Botanical Scheme, on a starting pay of Rs. 275 per mensem in the scale of Rs. 200-15-275/15-470/15-500-20-600, *vice* Mr. S. Sarup Singh, reverted to the Agricultural Department.

23. The Sub-Committee considered a reference from the Director of Agriculture, Bombay, intimating that the Provincial Government had decided not to permit Dr. B. N. Uppal, Plant Pathologist to the Government of Bombay, to attend the meetings of the Indian Central Cotton Committee, if the cost of his travelling allowance was to be borne by them, but that they had no objection to Dr. Uppal attending the meetings if his travelling allowance were met by the Committee. The Sub-Committee could not see its way to sanction payment of travelling allowance to Dr. Uppal for attending the meetings of the Indian Central Cotton Committee and its Sub-Committees, and decided that the Government of Bombay should be informed that it was not desirable that the Committee should depart from its existing policy in the matter of payment of travelling allowances as, if any exception were made, it might be necessary to extend the same concession to other Government servants or officers of Agricultural Departments who usually attend meetings of the Committee or its Sub-Committees as co-opted members. The Sub-Committee hoped that the Government of Bombay would reconsider their decision and not insist on Dr. Uppal's travelling allowance being met from the funds of the Committee.

24. A vacancy of a Junior Research Assistant having arisen at the Technological Laboratory owing to the resignation of Mr. Srinagabhushana, the Sub-Committee approved of the appointment of Mr. R. L. N. Iyengar, Technological Assistant, Coimbatore, to the vacant post.

APPENDIX II.*

SUBJECT 6.—*Report of Local Sub-Committee.*

Two meetings of the Sub-Committee were held since the meeting of the Indian Central Cotton Committee held in August 1940.

2. The Sub-Committee considered a joint letter from the Nawapur Taluka Congress Committee, Nawapur Taluka Bhil Seva Mandal and the Nawapur Taluka Development Association requesting permission for the transport of half-pressed Nawapur cotton to Surat to be full-pressed and marked as Nawapur cotton, together with a copy of letter from the Registrar of Co-operative Societies and Director of Rural Development to the Bombay Government and the orders of the latter thereon. The Sub-Committee noted that the Provincial Government had acceded to the request subject to the condition that adequate arrangements would be made to ensure that the bales of seed cotton, when full-pressed at Surat, are clearly marked as "Nawapur cotton" and that the merchants and cotton growers at Nawapur taking advantage of this concession, are warned that the concession would be immediately withdrawn, if it is abused in any way by mixing Nawapur cotton with Surat cotton. It was decided that the Registrar of Co-operative Societies should be requested to take steps to give publicity to the Government decision referred to by issuing a communiqué for publication in the local papers of Surat and Bardoli.

3. The Sub-Committee considered and approved of the proposal of the Director of Agriculture, Hyderabad, for the inclusion of *Gaorani 6* in the list of standard Indian cottons.

4. The Sub-Committee considered a letter from Mr. R. G. Saraiya on the question of finding alternative markets for Indian cotton shut off from certain

* Not Printed.

European countries owing to the war, and expressed the view that every effort should be made to use more Indian cotton in India itself. Since the import of Californian cotton is restricted at present, the Sub-Committee felt that if the specifications could be somewhat altered, it would be possible to make almost similar cloth from Indian cotton and it was decided that the Government of India should be requested that, in the specifications for tenders issued by the Indian Stores Department, it should be laid down that the goods should be made out of Indian cotton. In making this recommendation, the Sub-Committee had in mind such requirements for cotton goods of the Indian Stores Department as could be made out of Indian cotton, but which, in accordance with the specifications issued, entailed the use of imported cotton like Californian. It was further decided that enquiry should be made of the Government of India regarding the action taken by them on the recommendation of the Committee that more Indian cotton should be taken by the United Kingdom and on its resolution passed in August 1939 to the effect that early steps should be taken to control the importation of artificial silk yarns and cotton yarn by raising the tariff or by including them under the quota. The Government of India have been addressed accordingly.

5. The Sub-Committee considered the question of the utilisation of Indian linters for the manufacture of nitro-cellulose in India, and decided that enquiry should be made of the Government of India as to whether the possibility of utilising Indian linters for this purpose for use in the production of high explosives had been considered. The Government of India were addressed accordingly and they have replied that, as only hard waste is suited to the machinery installed at the Indian Ordnance Factories, linters cannot be used as suggested.

6. The Sub-Committee considered a letter from Messrs. Ramnarain & Sons, Ltd., to the Cotton Buyers' Association and decided to support their representation to the Government of India for an increase in the existing freight quotas fixed for the ports of Bombay and Karachi for exports of Indian cotton to the United Kingdom. The Government of India have since replied to say that shipping facilities to the United Kingdom are under the control of the Ministry of Shipping who have their representative in India for the purpose but that, as far as they are aware, steps are being taken to ensure the allotment of as much shipping space as possible for exports of cotton from Karachi and Bombay to the United Kingdom.

7. The Sub-Committee acceded to the request of the Director of Agriculture, Punjab, for the inclusion of Punjab-American *289F/K.25* in the list of standard Indian cottons.

8. The Sub-Committee in June 1940 considered a report by the Director, Technological Laboratory, on tests carried out at the Laboratory on samples of cotton belting and decided that it was worth while pursuing the matter with a view to finding out the extent to which cotton belting offered an outlet for surplus Indian cotton and that the Director, Technological Laboratory, should get into touch with Messrs. Good Year Tyre and Rubber Co., Ltd., in this connection and submit a report to the Committee in due course. The Sub-Committee considered the report of the Director, Technological Laboratory, giving the results of his enquiries, and in view of the opinion expressed by the firm that the matter might be taken up when normal conditions have been restored, agreed that no further action need be taken for the present.

9. The Sub-Committee in October last considered the circular issued by the Karachi Cotton Association on the subject of poor packing of Indian cotton bales and approved of the following two instructions contained therein, *viz.*, (*i*) that cotton bales of the ordinary type (Nasmyth Wilson Press) should invariably be bound with three hoops and (*ii*) that cotton bales must be fully covered with hessian cloth of standard quality. As regards the Association's request for the issue of a circular on the subject by the Committee, the Sub-Committee was of the view that, as the Association had already circularised its members, it would be enough if the decision of the Sub-Committee referred to above were communicated to the East India Cotton Association for such action as they might deem necessary. The East India Cotton Association were addressed accordingly and the reply received from them, approving of the above decision of the Sub-Committee, together with a letter from Messrs. Volkart Brothers, Karachi, to the Karachi Cotton Association, Ltd., regarding bursting of Indian cotton bales on their arrival in U. S. A. was considered by the Sub-Committee. It was decided that consideration of the subject should be postponed until the Sub-Committee had had an opportunity of examining the photographs showing burst Indian cotton bales, and that, in the meantime, the remarks of the Karachi Cotton Association on the points mentioned in Messrs. Volkart Brothers, Karachi's letter to the Association should be called for. This has accordingly been done.

APPENDIX III.

Forms to accompany proposals for breeding and seed distribution schemes and progress reports.

FORM A.

To accompany proposals for new breeding schemes.

Year :

1. Province or State.
2. Districts concerned.
3. Total Cotton Area :—(*i*) Average last 10 years
   (*ii*) Last year.
4. Names of the commercial types of the tract and whether grown singly or mixed. 1, 2, 3
5. Average acre yields in lbs. last 10 years.
6. Average staple length of commercial type, also limits of variation.
7. Average ginning percentage, also limits of variation.
8. Spinning value : approximate Maximum Warp Counts.
9. Approximate commercial value lint, in Rupees " ON " or " OFF " per candy compared with any recognised standard type.

Names of Commercial types.		
1	2	3

10. Peculiarities of the tract :—
    (*i*) Usual period of sowing.
    (*ii*) Usual period of picking.
    (*iii*) Annual average rainfall—Total and monthly distribution during cotton season.
    (*iv*) General soil types of the tract and variations, if any.
    (*v*) Type of cultivation—Dry or Irrigated.
11. (*i*) A brief account of the behaviour of commercial types or the constituents of the mixture under the local climatic and soil conditions.
    (*ii*) Methods of control or evasion usually adopted to combat adverse climatic and soil conditions.
12. Names of major local insect pests and diseases :—
    (*i*) Rough estimate of the damage caused by each.
    (*ii*) Susceptibility or resistance of the types.
    (*iii*) Methods of control usually adopted in the tract, if any.
13. Any other notable features of the tract or of the commercial types.
14. Name of commercial type to be improved.
    (Give botanical name according to latest classification.)
15. Source of breeding material.

To accompany proposals for

new seed distribution schemes and extensions thereof

FORM B.

Major Field Tests.

1. Method of layout.
2. Year of trial.
3. Localities in which field tests were conducted.

1	2	3	4	5			6	7	8	9	10	11	12	13	14
Name of Type: Commercial or New.	Name of type used as Control.	No. of years included in these tests.	Period of picking	Average Acre Yield (*Kapas*) in lbs.			% Increase over control.	Statistical significance of the increased yield.	Average staple length.*	Average ginning percentage.*	Maximum warp counts, if known.*	Average acre cash value *Kapas*.*	Seasonal peculiarities, if any.	Susceptibility or resistance to major pests or diseases or climatic or soil conditions.	REMARKS.
				Previous years.	Last year.	To date.									

*(i) Columns 8 and 10 as determined by the Director, Technological Laboratory, Matunga.
(ii) Column 9—Ginning percentages to be taken henceforth on roller gins in units of not less than 10 lbs.
(iii) Column 11 should be arrived at as prescribed in the instructions under column 7 of Form C. The valuation should be obtained from the East India Cotton Association or from the Technological Laboratory.

Signature:

Date:

Designation:

To accompany:—

seed distribution schemes and extensions thereof.

FORM C.

Statement showing comparative values of strains recommended for distribution and of commercial crop.

Name of Scheme

Year

VARIETY NAME.	Average yield kapas per acre in maunds.	Average staple length in inches.	Maximum warp counts average for period.	Average blowroom loss.	Average ginning %.	Average local value of lint per maund.	Average local value of seed per maund.	Average local value of kapas per maund.	Average cash value per acre.	REMARKS.
1	2	3	4	5	6	7	8	9	10	11
(*a*) Commercial crop ..										
(*b*) Recommended strain										
	Years Replicates Significance	Years Tests	Years Tests	Years Tests	Years Samples	Years Valuations	Years Valuations			

Column 2—Yield data to include only those tests in which the statistical significance of the results is known. Data for large areas to be shown separately.

Columns 3, 4 & 5—As determined by Director, Matunga Technological Institute. The averages for the period concerned to be shown in each column. "Years" refers to the No. of years during which tests were made.

Column 6—Ginning percentages to be taken henceforth on roller gins in units of not less than 10 lbs. The kapas to be cleaned by putting through opener or otherwise before ginning.

Column 7—Following procedure will be adopted in determining up-country value of lint, unless a method of valuation either up-country or by mills in Bombay is found suitable:—

(*a*) lint samples to be valued by surveyors of East India Cotton Association or other agency appointed by I. C. C. C. on basis of Bombay valuation expressed in rupees per candy "on" or "off" the standard trade type concerned. Preferably 2 samples of each type should be valued one at beginning of ginning season and one at end of season each year.

(*b*) Take average opening daily price of nearest futures month for standard trade type concerned as recorded by East India Cotton Association extending over period not less than 10 years.

(*c*) Adjust the "on" or "off" average to (*b*). This will give average Bombay valuation in rupees per candy.

(*d*) Ascertain inclusive flat rate covering local costs of ginning and pressing, transport and other handling charges to Bombay from selected up-country market. Name the market selected.

(*e*) Up-country valuation will be (*c*) minus (*d*).

Column 8—To be ascertained from Factory owners in same up-country market as selected for column 7 covering not less than 10 years if available.

Column 9—Calculated from columns 6, 7 & 8.

Column 11—Record any special factors that influenced yields in any year. Comment on any furnished data which do not conform to plan.

General Note:—

(1) Past data to be furnished in so far as they may be available.

(2) Future data to be collected for columns 3 to 8 should be based on crops grown in the same environmental conditions.

(3) Copies of all tests on which data are based to be filed for easy reference.

Signature:

Designation:

Dated

FORM D.

To accompany *(Showing the economic position.)* Year

Progress Reports on Seed Distribution Schemes from and including the 2nd year of their working

1. Name of Scheme :—
2. Period for which sanctioned :— (Including extensions.) } From :— } To :—
3. Total amount sanctioned :—
4. Total expenditure incurred to-date :— (*i*) by I. C. C. C. .. .. Rs. (*ii*) by Local Govt. .. .. Rs.
5. Name (s) of the commercial type (s) to be displaced :—
6. Name of improved strain recommended for cultivation :—
7. Notable features of the strain during the year under report and any special factors that influenced the yield.
8. Stage and year of seed distribution :—
9. Total area under cotton in the province :—
10. No. of independent cotton tracts in the province and average cotton area of each :—

    1.
    2.
    3 etc.

11. Area proposed to be ultimately covered with the improved type :—

District.	Area.
Total.	

12. Quantity of seed of improved type distributed departmentally.) Show progressive distribution since commencement of scheme.)

13. Area covered by the improved type during the current year :— (1) By departmental seed (2) Natural spread (estimated)

    Total .. ..

14. Estimated total area covered to date by the improved type :— (1) in acres. (2) Expressed as percentage of item 11.

15. The provincial outturn per acre last year :—

16. Steps taken to maintain the purity of the strain (s) :— (1) Area selfed :— (2) Quantity of S. F. seed produced and area sown with selfed seed :— (3) Any other measures adopted for ensuring purity :—

FORM D—(*contd.*)

Season.	Name of Variety.	Estimated average acre yield *Kapas*. (*a*)	Average market price of *Kapas* per Imperial or Standard Maund. (*b*)	Relative acre cash values.	Enhanced value per acre of new strain.	Estimated total area under new strain.	Estimated gross extra income to growers.	REMARKS.
		17	18	19	20	21	22	23
		Maunds.	Rs.	Rs.	Rs.	Acres.	Rs.	
	Improved:—							
	Name————							
	Ordinary:—							
	Name————							

Note.—(*a*) Average yield of commercial crop to be taken from latest crop forecast for season concerned. Average yield of improved strain to be calculated on basis of percentage increase in yielding capacity based on the yield data of those tests in which the statistical significance of the results is known or based on data obtained for large areas.

(*b*) Average market prices of *kapas* to be those of season concerned ascertained from two or more reliable factory-owners in each of two or more up-country markets. Names of selected markets to be noted in "Remarks" column.

Signature:

Date:

Designation:

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